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SOME ADMINISTRATIVE PROBLEMS IN HOME ECONOMICS IN THE PUBLIC SCHOOLS[1]

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The administrative problems connected with home economics instruction resolve themselves, as do all school problems, into two groups: those resulting from human characteristics and conditions; and those due to the never absent financial restrictions.

The all important human element involved in these problems is that of the children: children from homes so prosperous that every duty is performed by hired servants; children from the middle class homes where all family members coöperate in discharging home tasks; children from homes where religious differences make many American practices offensive; children who never have quite enough food, or quite sufficient clothing, yet who, though often both hungry and cold, must be evolved into good citizens; and children from homes where no word of English is spoken and where the commonest American home and school standards are unknown must all be assisted in their development toward good citizenship. To adjust the courses and the lessons in the courses, to decide upon the points where special stress is most needed, to establish coöperation with the home, to secure the friendly interest of local dealers so that they will assist the teacher in her instruction; all of these elements enter into the general adjustment for the good of the child.

Satisfactory courses in home economics are vocational, pre-vocational, and of general educational value. They are vocational in so far

[1] Presented at the meeting of the American Home Economics Association, Kansas City, March 2, 1917.

as they prepare for the vocation of homemaking, the occupation into which 93 out of every 100 enter; they are pre-vocational in so far as they prepare for the various wage-earning occupations which are outgrowths of former home industries and which now employ the majority of wage earning women; and they are of general educational value in so far as home economics instruction stimulates appreciation of scientific knowledge, awakens social conscientiousness, and trains in the accurate observation of the phenomena of plant and animal life and the commercial activities of the city in which the student lives.

To formulate a course that will serve the school community is of primary importance. Such courses must be based upon a knowledge of the economic and social status of the homes from which the students come; of the probable years the girl will spend in school; of the occupations probably open to her upon leaving school; of the probable number of years she will work before marriage; of the information of which she will be in greatest need when she enters upon her homemaking life; of the opportunities offered for supplementing her regular school training by extension classes, both during her wage earning years and after her marriage; and upon information as to the probable continuance of certain groups of girls throughout elementary and secondary schools and their later entrance into college or university.

A rigid uniform course in home economics in the school system of a larger city can never properly serve the needs of the different school communities. Adaptation and diversification to meet the economic and social conditions must be made possible. This interpreted means establishing home economics work in lower grades in some schools than in others; it means allotting a greater portion of school time to this work in certain schools than is given in others; it means sometimes classifying students by age and need of instruction rather than by grade; and it means, more than all else, the adaptation of the actual lesson to the particular group of students. It means giving to the Jewish child that which the Jewish child needs and can use; to the newly arrived foreign child that which will most help the family in adjusting their habits of life to the requirements of a new environment; to the child of the unthrifty American that which will tend to awaken an appreciation of the value of economy and intelligent consumption; to the child of the well-to-do that which will establish standards of beauty, simplicity, and right living, and remove the impression that work with the hands degrades.

These variations and adaptations of courses do not mean that each teacher plan her own work; indeed, quite the opposite is true. There must be definitely and carefully planned courses, consistent throughout, leading the student to a pre-determined goal, by methods adjusted to social and economic needs. Stress upon the various phases must be placed according to the community need.

Adaptation of courses necessitates extreme care in the placement of teachers of home economics. Only teachers of a sympathetic and understanding mind should be detailed to the cosmopolitan sections of a city, and only those who are willing to acquaint themselves with the most vital needs of the children from poor families should be permitted to teach in the poorer quarters. The weaker and more inexperienced teacher may serve her apprenticeship in the schools in the more prosperous portions of the city where a formal course of study may be administered.

Ability and willingness to serve in the difficult sections of the city should be rewarded by increased salary and by free time during the school day, that the teacher may establish acquaintanceship with the school community.

Efficient teaching demands small classes and individual instruction, but small classes necessitate the employment of more teachers, and the employment of more teachers increases school expenses.

The theory that all school purchases should be in large quantities, by one agent, and from competitive bids is so good that it is almost incomprehensible to the average school board that home economics people should not like such an arrangement, and that, when in force, it seriously hinders the efficiency of their teaching.

The wise spending of money is an essential part of any home economics course and the students must have an opportunity to market for the food classes, to aid in the selection of replaced equipment and the materials used in furnishing the practice house.

The slight saving effected by collective purchasing by the school board's financial agent is more than compensated by the training received by the children in seeing and assisting in marketing, and also in the teachers opportunity to vary the lessons to meet the local conditions.

Articulation between grade and high school courses must be established and this can be successfully done only where authority and responsibility for home economics instruction is centered in one in-

dividual. In large cities assistant supervisors are needed. Child, parent, school principal, room teacher, special home economics teacher—all add to the administrative problems, and all conflicting elements must be adjusted if the best instruction is to be given to the child.

The tax-paying portion of the community complains at the cost of the newer type of education, seldom realizing that the social burden resulting from ill trained non-taxpayers finally falls upon the property owner. Thus the human problem and the financial problem become conflicting elements, and, in the effort to effect an adjustment of these, many a superintendent and supervisor have met defeat.

Further administrative problems arise when the theory of adaptation of work to pupil-need is put in practice, since it involves the adjustment of class schedules and the maintenance of coöperative effort among many teachers and principals, some of whom may not fully understand the need of this variation nor be in full sympathy with the newer educational ideals.

Nor do courses, teachers, principals, and finances, comprise the entire list of possible causes of administration problems. Not only "What shall be taught?" but "Where shall it be taught?" and "How shall the teaching be done?" are ever present and debatable questions.

In smaller school systems centers for teaching home economics have been found adequate, but as the population becomes more dense the tendency is toward larger school buildings, and the time arrives when there are enough girls in each school to keep the home economics rooms in constant use.

If the six-three-three-plan prevail, these centers will of necessity be established for the children of the fifth and sixth grade, and the junior high schools will be equipped completely for their work. Whether the junior high school be a part of the school system or the older type of high school be maintained, in either case it seems desirable that a full course with three double periods and two single periods per week be given throughout the ninth year.

If work begins in the fifth grade—and in the fourth in the cosmopolitan sections of the city—and if in the fifth and sixth grades three hours weekly, and in the seventh and eighth five hours weekly are given to homemaking subjects, then it will be found that one sewing room, one laboratory equipped for twenty pupils, and one small house or apartment can be advantageously maintained in each school.

The laboratory equipped for twenty to thirty with small cooking utensils permits teaching many children, a little lesson at small expense. This is permissible for the average child in the fifth, sixth, and perhaps in the seventh grade, but some other method must be introduced if food preparation classes are to hold the interest and attention of eighth and ninth grade girls and give to them the knowledge, speed, and efficiency which rightfully belong to children completing the grammar or junior high school grades. The sale of the food prepared in class gives an opportunity for this better type of teaching and diminishes the expense of the department. Penny lunches, teachers' lunches, food sales, and contributions to the school luncheons, all offer excellent opportunities for the cooking of family sized recipes.

The advantage of practice homes as places for teaching home economics has appealed to many educators. That the more nearly the conditions under which the instruction is given can approximate those of a real home, the more valuable that instruction, has been accepted as true by many superintendents and supervisors.

The majority of home economics teachers have not, up to the present time, been prepared to manage properly a practice house, and have feared to attack the problem of the school lunch. The establishment of these has frequently met with the opposition of the teachers. To add duties through the noon period and not proportionately decrease other demands is manifestly unfair to the instructor having charge of food service. An inclination to grant to the teacher free time in acknowledgement of her noon work would remove some of the opposition to these added responsibilities, and the colleges are so generally establishing practice houses that from now on the teacher will be more ready to make use of these in public school work.

When satisfactory courses in foods, clothing, and home management have been made part of the required work of all girls until they have completed the ninth grade, and elective courses in home economics have been established in all high schools except those limited to trade or commercial training, the work, the real work, of the public schools will have been well begun, but much will remain to be developed.

The wage-earning woman should have an opportunity to extend her knowledge in foods, clothing, personal hygiene, and sanitation in order that she may conserve her own health and intelligently expend her own income to meet her own requirements in food and clothing.

The wage-earning girl needs instruction somewhat different from that given to the actual homemaker. These latter may rightfully demand that the public school system afford them opportunities for perfecting their knowledge in homemaking.

The home worker and the wage earner require a somewhat different type of teacher from the one usually employed in the day schools.

To find women with practical experience in home life or in trade work who are able also to teach well is difficult. Indeed the whole question of securing and retaining satisfactory teachers of home economics presents many complications. Part of these difficulties arise because school boards limit too closely the compensation given for work of this kind, part come from the fact that many of the best colleges giving teacher training are located in villages too small to afford the student opportunities to acquaint themselves with city life problems, or to practice teaching under average city conditions, and not a few of the difficulties arise because of the marriage of the teachers. There is an average annual change of about one-third of all employed home economics teachers.

The child with his environment, the parents with their lack of understanding of school problems, the school principal beset with many demands, the room teacher jealous of encroachment upon her time with her students, the special home economics teacher, often young and inexperienced in life and city problems, the tax payer ever criticising each added expenditure; all add to the administrative problems involved in building into a school system an adequate department of home economics, that will give to school girls the elements of an education for homemaking that will lead them to discover their special adaptness in order that they may later choose further vocational courses and find the wage earning occupation best suited to their abilities; and that will broaden the intellectual outlook of all girls so that they may better adjust themselves to their positions as responsible citizens in their community.

THE SCHOOL LUNCH AS A PROJECT IN TEACHING COOKERY IN THE ELEMENTARY SCHOOLS

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The school lunch movement is growing faster than those who are not connected with a city school system realize. Whether we home economics teachers are to use these lunch rooms for teaching cookery is a matter for serious consideration. Kansas City has been experimenting with this problem now for over three years.

The history of our public school lunch movement is similar to that of other cities. The efficiency of our schools was retarded by the malnourished and undernourished children. Many of them, from homes in which the mothers worked, were given 5 to 10 cents and locked out at noon. Those who resisted the attraction of the tops, marbles, jacks, pickles, and candy, and tried to buy nourishing food with their few pennies, often suffered because they had chosen unwisely, or because the food had been spoiled or poorly prepared.

One principal asked for a lunch room because too many children were sent to him in the afternoons who were feeling the effect of buying chilli in which the restaurant keeper did not use fresh meat. Another principal was appalled when he discovered that the groceryman opposite sold 39 barrels of pickles yearly to the pupils of his school. Other principals objected to the energy wasted in bringing a cold lunch to the body temperature and in digesting such foods as doughnuts, pies, thick slabs of cheese, or pork. For such reasons as these, three lunch rooms were established and each granted to a separate concessionaire who was expected to coöperate with the principal and home economics teacher. But unfortunately the proposition was a money making scheme to the concessionaire and since the school fixed the prices there was a constant fight to have simple nourishing foods of good quality sold.

After two years of this struggle Mr. Patterson, a new principal in town, asked for and was granted a lunch room, not because the pupils in his district particularly needed one, but in order that the girls in the cookery classes might have an opportunity to cook in larger quantities. Mr. Patterson believed that the home economics work should function in the life of the school, not only for the good of the school and of the pupils rendering such service, but because such direct teaching would

also help the home economics lessons to react more definitely and surely upon the home life of the pupil.

We knew of no other school in which the cafeteria lunch was prepared wholly by the pupils in their regular cookery lessons, and so the working out of the plan was our own. While it is far from being a model it has a sufficient number of good points to justify us in patterning the existing lunch rooms, and those later established, after this Garfield lunch room plan. The advantage of having the entire management and preparation of foods in the home economics department was at once apparent in the better cooked, cheaper, more wholesome, and more nourishing foods. The advantage to the child in the cookery classes will be discussed later.

The plan as worked out for the elementary schools is as follows:

Each child has one year of regular cookery before she takes lunch room cookery. This is in order to establish certain ideals and definite habits of cleanliness and of manipulation, and to give fundamental facts about foods and principles of cooking.

Each class is divided so that a lunch room class will be composed of but 8 to 12 pupils. Lunch room classes meet one-fourth of a day once a week, but alternate so that a class that comes the first quarter of a day one week will cook the second quarter of the day the next week. One half of the boys in the room go to manual training when half of the girls go to cookery so that the grade teacher has a class left in her room to teach. This is an expensive arrangement as far as teachers salaries are concerned, but is necessary if the girls are to profit by this type of cookery lessons.

Each lunch room has a helper, paid from the lunch room receipts, who does all heavy lifting, washing of lunch room dishes, mashing of potatoes, and also the paring of the potatoes or other such routine duties after the pupils have mastered them sufficiently so that they have no further educative value.

Each girl is responsible for washing all dishes which she uses in her own cooking, for leaving her working space in perfect condition, and for her share in doing the general cleaning of the room.

Menus are varied sufficiently and are inclusive enough so that, as far as possible, cooking may be done in family quantities, and so that no girl needs to repeat a lesson she has learned. Soup, cocoa, white sauce, and a few other foods must of necessity be prepared in larger quantities than those used in a family.

For every lesson a record is kept of the work of each girl and as a rule only failures are repeated. This takes careful planning on the part of a conscientious teacher who is unwilling to sacrifice the good of the pupil to the preparation of the lunch.

A home economics teacher who has charge of a lunch room is required to teach five less classes a week than other home economics teachers. This is in appreciation of the fact that such a teacher is under a heavy strain during the noon hour, a rest period for other teachers, and that she needs time for bookkeeping, planning, and ordering.

Lunch room receipts cover the cost of all food, the up-keep of equipment, the expense of all help except teachers' and janitors' salaries, the laundry, and usually the cost of the food materials used for regular fifth grade cooking lessons.

During the three and one-half years that this plan has been in operation, and that is now in eight elementary schools, we have learned certain things about the lunch room as a project in teaching cookery:

First. That lunch room cookery should never be the only type of cookery lessons given because too much needed instruction must be omitted. There is not time for teaching meal planning, table service, food values, or invalid cookery, and the cost of foods presents a different problem from that of the home because lunch room supplies are bought wholesale.

The family meal plan, whereby classes in 9 of the Kansas City schools prepare lunches for groups of teachers, who pay 15 cents each, presents a method of teaching family quantity cooking which has the advantage of giving pupils experience in planning meals for a definite cost, and in marketing and serving. Two negro schools give lunch room cooking to the sixth grade girls, and family meal plan cooking to the seventh grade girls for at least part of the year.

Second. We have learned that large quantity cooking, the product of which is to be used for a definite purpose, is a better method of teaching technique than the lesson with the individual recipe. In some part of a cookery course technique should be emphasized to the point where there will be for the pupil a real joy in accomplishing because the success of the product is sure. Does not this emphasis on practice belong to a large extent in the elementary schools, where the pleasure in using the larger muscles is keener and the interest in theory less interesting than to the older girl?

Third. We have found that cooking for others is a far more interesting and stimulating activity than cooking for oneself. It seems to be a more gripping experience and one which the pupil feels to be more worth while. It is only in a few instances of academic minded girls that pupils who have had large quantity cooking wish to go back to regular cookery. If you ask a girl who has had both kinds of cookery which she prefers, you are quite certain to get some such reply as this: "Oh, I like lunch room cooking best because you cook things for other people to eat and you know that they are good or else they wouldn't buy them." All of us want someone's approval of our products. This desire for approval is manifested in the regular cookery classes by the wish of pupils to serve their teacher or to take home what they have made, to show mother and father. I have heard children insist on taking home baked potatoes, bacon and omelet, griddle cakes and other foods equally undesirable when cold, and once when I was visiting a class a child sent back an imposing looking chauffeur in livery to get three prunes which she had cooked that day and forgotten. Surely it is worth while to cultivate directly in a girl this interest in cooking for others and the resultant pride in her success.

Fourth. We believe that the establishing of right food habits is one of the most important functions of any school lunch room, and that the habit of eating simple, nourishing foods will be more permanently fixed if the pupils prepare at school the exact foods that they learn to like in the lunch room. As one of the boys in a lunch room class expressed it, "I am going to put this over on the folks at home tonight." This desire to "put over" on the rest of the family what has been learned at school is the real test of our teaching. If what we teach does not function in the home life of the pupil our home economics teaching is in vain. We have not investigated sufficiently to be certain, but we believe that lunch room cookery is functioning in the home more than regular cookery.

Fifth. We have found that lunch room cookery has a real social value in that it gives an opportunity for pupils to share together in a common enterprise for the benefit of a large number. There is a definite feeling that the success of the lunch that day depends upon each one doing her utmost not only in the preparation of the dish assigned to her, but also in the doing of any extra tasks with which she can help. The joy of the children in rising to the occasion is inspiring, and the sense of responsibility they manifest in this common undertaking makes one hopeful for a more perfect coöperation among the women of the

future in undertakings of common social interest. "The moral and practical discipline from sharing in a round of home duties is lost in many homes. Since this moral purpose, altruism, and coöperative spirit arising from wholesome home life are so often lacking in the present day city home, it is well for us to do what we can to emphasize these qualities, not only for the sake of the home and society, but because knowledge that is gained by participating in social situations is more genuine and effective."

Sixth. We have learned that no better method of developing independence, initiative, and resourcefulness can be found than to ask a girl to take the responsibility of preparing weekly, by herself, something that is to be judged on its merits and used by her associates. After a little experience in the lunch room girls can follow a new recipe independently, dividing it or increasing it, as the need arises, without the least hesitation, and with all of the confidence which is gained by having former efforts praised by those who patronize the lunch room. As one little girl told her mother who hesitated about allowing her daughter to prepare the stuffing for the Thanksgiving turkey: "Well, but mother, I made it at school and they all paid money for it and liked it." The same independence and confidence in her own ability does not seem to me to be possible when a girl prepares just an individual amount which she alone samples. The fact that each girl is responsible for the success of a dish seems to put her on her mettle and she expects and receives less help than she would if she were making an individual recipe under a teacher who spent all of her time directing the preparation of the one dish. The resourcefulness and initiative developed in working out such individual problems is the most decided advantage of such cookery and it is to be hoped these will be carried over into working out problems in like situations in life.

I have been interested in writing this paper to see how strongly I seem to be advocating this type of cookery. As a matter of fact, Kansas City is seriously considering a different plan in the new lunch rooms that need to be installed. This change is contemplated because the plan now in operation is necessarily expensive as far as salaries are concerned, is not workable in a small school to which a home economics teacher goes but once or twice a week, and because we realize that the variety of food that we sell is not needed by the child who must buy his lunch. We are now trying the plan in one school of serving a very simple lunch consisting of bread, fruit, and one hot dish, prepared by a

woman under the direct supervision and management of the home economics teacher and principal. When the food to be prepared in the regular lesson is desirable to serve in the lunch room each girl prepares a larger amount than the individual recipe.

But in spite of the fact that it is possible that we may not extend the use of the school lunch as a project in teaching cooking, we are convinced that lunch room cookery has a decided advantage in that such activity gives increased opportunities to develop technique, responsibility, initiative, independence, and ability to coöperate in a social project which is interesting to the girl. These are vital educative values and an opportunity to use the lunch room to develop such qualities in our pupils should be taken advantage of whenever possible. However, lunch room cookery can not have these educative values for all girls unless the class is kept under twelve in number, and unless there is a capable, conscientious and real teacher directing the work. Even under ideal conditions it is desirable to have lunch room cookery only a part of a foods course and to precede it, and follow or supplement it with lessons that can not easily be taught in a lunch room course.

OUTLINE OF THE CONTENT OF SPECIAL METHODS COURSES FOR STUDENTS PREPARING TO TEACH HOME ECONOMICS[1]

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I. Study of function of a course in teaching in home economics.
   1. Point of view of
      (a) Prospective teachers.
      (b) Those already teaching.
      (c) Those engaged in training teachers.
   2. Relation to observation work.
   3. Relation to practice teaching.

[1] Presented at the Conference of Home Economics Teachers Employed in Land Grant Colleges November 17, 1916, Washington, D. C.

II. Function of home economics courses in school.
  1. Reasons usually given for teaching.
  2. Study of function—intrinsic and indirect.
  3. Value of clear appreciation of intrinsic function.
  4. Means of connecting more closely with home.

III. Logical organization of material of home economics.

IV. The place of the project in home economics teaching.

V. Home economics in schools of different types.
  1. Study of place and function in
    (a) Rural school.
    (b) Elementary school.
    (c) High school.
    (d) Normal school.
    (e) College.
    (f) Vocational school.
  2. Effect of differentiation in function on presentation of the lesson and the subject matter presented.
  3. Effect of differentiation of function on organization of the course.
  4. The project as a teaching unit.

VI. The high school course.
  1. Review of intrinsic function in high schools.
  2. Organization.
    (a) Number of units.
    (b) Specialized or unspecialized.
    (c) Logical organization of subject matter.
  3. Presentation of individual lesson.
    (a) Value of logical outline for course and daily plan.
    (b) Value of clear conception of intrinsic function of each lesson.
    (c) Psychological as opposed to logical presentation of lesson.
    (d) Necessity for logical summary.
    (e) Place of drill and illustrative experiments.
  4. Use of the project in the high school.

VII. Cost and arrangement of equipment.

VIII. Laboratory management.

IX. Demonstration work—place in teaching.

X. Selection of a text book, and reference material.

XI. The use of illustrative material.

XII. Vocational training in home economics.
1. Place of vocational training.
(a) High school.
(b) Continuation courses.
2. Type of courses.
(a) Homemaking.
(b) Home economics training of industrial application.
3. Organization of courses.
(a) Theoretical courses demanded.
(b) Amount and type of practical courses.

THE MODERN HOME

Some people have the idea that the apartment house is going to destroy American home life, but when one considers that all recent investigation has shown that the health of city children is better than that of their sisters and brothers in the country; that the sanitary conditions are better and that their food is more healthfully cooked, he must come to the conclusion that even an apartment house is rather an admirable place in which to live. The socializing and institutionalizing of families is nothing to dread. The "good old-fashioned American home," I am afraid, is going to disappear. . . . .

The position of wife ought to be such that it would develop professional spirit by which intercourse could be had with those engaged in the same tasks. But more than anything else she should see how her work is related to the larger life of the people and the nation. . . . .

There is a great field for the study of household decoration. To be a specialist in clothes is a delightful field. But greater even than these is the spiritual and ethical uplift, enlarging and enriching the lives of the family, that a modern mother has leisure to give.—*From President George Vincent, at Chautauqua Woman's Club, 1916.*

LOSSES OF IRON IN COOKING VEGETABLES

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Of the many published analyses of vegetables giving the iron content, most are on the raw substance, not the cooked. Further, with one slight exception,[1] the several important studies[2, 3, 4] on losses in cooking vegetables have not included iron. Because of the importance of iron in the diet, and the habit some dietitians have of computing the amount of iron in the cooked food from the published percentages for the raw, regardless of the method of cooking, it seemed desirable to determine some iron losses. Spinach, string beans, navy beans, fresh peas, potatoes were the vegetables chosen. These were cooked in considerable water, the water drained off, and the iron determined in the raw and in the cooked food and in the cooking water.

Before presenting our experimental work it may be worth while to speak of the great variations found in the literature in the iron content of some of these substances. Spinach especially shows a great range: Sherman,[5] 0.0032 per cent; Czadek,[6] 0.0033 per cent; Serger,[7] 0.0095–0.0212 per cent; Haensel,[8] 0.024 per cent. Some of these investigators report their analyses in terms of percentage of the dry substance, but for convenience of comparison we have recomputed them here to percentage of the whole spinach, using 9 per cent solids as a fair average. Czadek[6] was able by use of iron-containing fertilizers to raise the iron of his spinach from 0.0033 to 0.026 per cent—an almost eight-fold

[1] Haensel, *Biochem. Z.*, 16, (1909), p. 18.

[2] Berry, *Jour. Home Econ.*, 4, (1912), p. 405.

[3] Williams, *Jour. Amer. Chem. Soc.*, 26, (1904), p. 252, and 29, (1907), p. 574. *Jour. Ind. and Eng. Chem.*, 5, (1913), p. 653; *Chemical News*, 113, (1916), p. 145.

[4] Snyder et al., U. S. Dept. Agr. Off. Exp. Sta. Bul., 43, (1897).

[5] Sherman, Food Products, New York, 1914.

[6] v. Czadek, *Z. landw. Versuchswesen Österreich*, 7, (1904), p. 65. Quoted by König, *Chemie der Menschlichen Nahrungs-und Genussmittel*, III, 2, 838, Berlin, 1914.

[7] Serger, *Pharm. Z.*, 51, (1906), p. 372.

[8] Haensel, *Biochem. Z.*, 16, (1909), p. 9.

increase. Potatoes vary from 0.0013 per cent (Sherman[5] and Bunge[9]) to 0.0076 and 0.0132 per cent (Haensel[5]).

METHOD OF DETERMINATION OF IRON

Of the various ways of determining iron the commonest—the gravimetric methods and the permanganate titration—are not sufficiently sensitive unless very inconveniently large quantities of vegetable are used. For instance, 100 grams of spinach contains about 3 mg. of iron, and this quantity requires only 1 cc. of N/20 potassium permanganate for titration. The colorimetric method with potassium thiocyanate is much more satisfactory, for the red color of the ferric thiocyanate solution is so intense that it is visible in extreme dilution and slight variations in its intensity can readily be detected. We therefore have used this method. In employing it, it is necessary to have a standard of known iron content. This was prepared for our work by dissolving 0.10 gram of iron wire (99.9 per cent pure) in 5 cc. each of concentrated hydrochloric and nitric acids, and making up to 2 litres. One cubic centimeter of the resulting solution contained 0.05 mg. of iron, or 0.00005 gram. Amounts of this standard, ranging from 0.5 cc. to 4 cc. and differing by 0.25 cc. were put into 100 cc. graduated flasks, a few drops of acid and an excess of potassium thiocyanate added, and the whole made up to the mark. Standards were thus obtained of varying intensities of the red color of ferric thiocyanate, ranging in iron content from 0.025 to 0.2 mg. Quantities that differed from each other by as little as 0.01 or 0.02 mg. of iron could be distinguished. It is essential here and with the solution of the vegetable that an excess of the potassium thiocyanate be used. Otherwise the maximum intensity of red will not be reached, the color will fade, and certain other ions may interfere with the reaction. There must be at least twelve times as many grams of potassium thiocyanate as ferric chloride to produce the maximum color,[10] even when the two substances are together in purity. With too small amounts of thiocyanate in the presence of various other ions, such as phosphates, the color reaction may be completely prevented.[11]

In preparing the vegetable for comparison with these standards organic matter had of course first to be destroyed. Simple ashing by direct ignition is possible, but if chlorides are present the process may involve loss of iron because of the volatility of ferric chloride. Ashing at fairly low temperature with occasional addition of a few drops of nitric acid is quick and probably

[9] v. Bunge, *Z. Biol.*, 41, (1901), p. 155.

[10] Curtman and Harris, *Jour. Amer. Chem. Soc.*, 38, (1916), 2622, and Kruss and Moraht, *Ber.* 22, (1899), 2056.

[11] With excess of thiocyanate we have not observed the irregularities found by Nottbohn and Weiszwange, *Z. Nahr-Genussm.*, 23, (1912) p. 514, in their work on iron in milk ash. Adding varying amounts of phosphate to our standards had no effect upon the red color.

safe. We checked our results on the beans by this method, but in most of our determinations we oxidized in the "wet way." A convenient amount of the vegetable (from 2 to 10 grams) was weighed into a large evaporating dish or a small Kjeldahl flask and oxidation started by heating with a small amount of concentrated sulphuric acid. When the contents of the dish or flask were well charred, a small amount of nitric acid was added and heated until the brown oxides of nitrogen had disappeared and the white fumes of sulphuric acid were given off. This addition of nitric acid was repeated until the liquid in the dish was not charred when the white fumes appeared. This indicated that oxidation was completed, but to insure this point the solutions were boiled for twenty or thirty minutes longer. After cooling this strongly acid solution, it was diluted to about twice the volume, boiled to remove any comb ned nitric acid, again cooled and a few drops of nitric acid and an excess of potassium thiocyanate added. The whole was made up to 50, 100, 250, or 500 cc. according to the intensity of color expected. All or part of this was poured into Nessler tubes and matched with one of the standards. Occasionally a brownish color was obtained instead of the pure red. This was apparently due either to using too little sulphuric acid and having a brown compound from the excess of nitric in the concentrated liquid, or to not boiling away the nitric on dilution.

PREPARATION OF MATERIAL FOR ANALYSIS

In cooking the vegetables, 5 to 10 grams of the raw material and 25 to 75 cc. of distilled water were boiled in a covered beaker for twenty to forty minutes, or in the case of the navy beans for two hours. The cooked vegetable was drained through a small aluminum sieve or tea strainer. The raw and the cooked vegetable, and the residue from the cooking water after evaporation, were analyzed according to the method described. In the majority of cases at least four checks were made for each part of the experiment. Of the potatoes, because individuals are known to differ considerably in composition,[12] seven were scraped, washed in distilled water, grated and mixed. Four small samples of this uniform pulp were taken for analysis. The cooked potatoes were treated in much the same way, seven being scraped and cooked together, then weighed, riced and well mixed, and four samples taken. The cooking water was of such an inconvenient quantity that it was evaporated to 200 cc., divided into four parts and analysis carried out as usual.

[12] Jones and White, Vermont Agr. Exp. Sta. Report, 1901, p. 209.

RESULTS

The results of the experiments are given in the following tables. To avoid repetition, the details of the computation for spinach alone will be tabulated, and the other vegetables given more briefly. Table 1 gives the figures for the iron in raw spinach, table 2 for cooked, and table 3 for the cooking water as actually observed and as computed by subtracting the quantity of iron in the sample of the cooked from that in the raw. The percentage of the total iron of the spinach lost by this

TABLE 1

Raw spinach

SPINACH TAKEN	QUANTITY OF STANDARD MATCHED	IRON IN STANDARD MATCHED	IRON PER 100 GRAMS RAW SPINACH
grams	*cc.*	*mg.*	*mg.*
2.0	1	0.05	2.5
3.0	1	0.087	2.9
4.0	2	0.1	2.5
Average			2.6

TABLE 2

Cooked spinach

(Oxidized material made up to 250 cc. Therefore reading of standard multiplied by 2.5)

RAW SPINACH TAKEN	COOKED SPINACH OBTAINED	STANDARD MATCHED	IRON IN STANDARD MATCHED × 2.5	IRON PER 100 GRAMS COOKED SPINACH
grams	*grams*	*cc.*	*mg.*	*mg.*
10.0	9.3	1	0.13	1.4
10.0	8.4	1	0.13	1.5
10.0	8.3	1	0.13	1.5
10.0	8.1	1	0.13	1.6
Average				1.5

TABLE 3

Cooking water from spinach

IRON IN RAW SPINACH TAKEN	IRON IN COOKED SPINACH OBTAINED	IRON IN COOKING WATER, COMPUTED	IRON IN COOKING WATER, DETERMINED	PERCENTAGE OF TOTAL IRON LOST	
				Computed	Determined
mg.	*mg.*	*mg.*	*mg.*	*per cent*	*per cent*
	0.13	0.13	0.09		
	0.13	0.13	0.09		
	0.13	0.13	0.15		
	0.13	0.13	0.11		
Average 0.26	0.13	0.13	0.11	50	43

process of cooking is thus 50 by computation and 43 as actually found in the water—nearly half of the total iron.

The difference between the percentage of iron lost computed by subtracting the quantity in the cooked from the quantity in the raw (50 per cent), and the amount actually found in the cooking water (43 per cent) indicates considerable error. It is largely due to the fact that in working with such minute quantities of iron a fairly high percentage of error is unavoidable. We believe that since several determinations were made for every raw and cooked vegetable, the average is fairly accurate.

TABLE 4

Milligrams of iron per 100 grams raw and cooked vegetable

SPINACH		STRING BEANS		NAVY BEANS		FRESH PEAS		POTATOES	
Raw	Cooked	Raw	Cooked	Raw	Cooked	Raw	Cooked	Raw	Cooked
2.5	1.4	1.0	0.6	7.0	1.6	2.7	1.4	0.9	0.9
2.9	1.5	1.2	0.5	8.7	1.7	2.4	1.4	1.4	0.8
2.5	1.5	1.2	0.4	8.7		2.7	1.3	1.2	0.9
	1.6	1.0	0.5	9.0		3.0		1.1	0.9
				7.5					
Average 2.6	1.5	1.1	0.5	8.2	1.7	2.7	1.4	1.1	0.9

TABLE 5

Losses of iron in cooking vegetables

VEGETABLE	RAW USED	COOKED OBTAINED	IRON IN RAW	IRON IN COOKED	IRON IN COOKING WATER		PERCENTAGE OF TOTAL IRON LOST	
					Computed	Determined	Computed	Determined
	gram	*gram*	*mg.*	*mg.*	*mg.*	*mg.*	*per cent*	*per cent*
Spinach	10.0	8.5	0.26	0.13	0.13	0.11	50	43
String beans. Sample 1	10.0	12.0		0.08	0.03	0.04		
" 2	10.0	11.8		0.06	0.05	0.05		
" 3	10.2	11.7		0.05	0.06	0.04		
Average	10.1	11.8	0.11	0.063	0.047	0.043	43	39
Navy beans.. Sample 1	5.0	15.4		0.25	0.16	0.13		
" 2	5.0	15.0				0.13		
" 3	5.0	14.4		0.25	0.16	0.13		
Average	5.0	14.9	0.41	0.25	0.16	0.13	39	32
Peas.....Sample 1	5.2	6.3		0.08	0.06	0.06		
" 2	5.5	6.2		0.09	0.05	0.05		
" 3	5.4	6.1		0.09	0.05	0.05		
Average	5.4	6.2	0.14	0.09	0.05	0.05	36	36
Potatoes	490.0	468.0	5.4	4.2	1.2	0.80	22	15

It is interesting to compare these losses with those of the magnesium and phosphorus as determined by Berry in boiling spinach. Of these minerals determined as magnesium oxide and phosphorus pentoxide were lost 60.38 per cent and 52.33 per cent respectively, and of the total ash 51.65 per cent—even greater quantities than in the case of our iron.

The preceding tables include the results with all the vegetables.

For convenience, the milligrams of iron per 100 grams raw and cooked vegetable are brought together in table 4. Of course as some of the vegetables lose weight in cooking and some gain, as shown in columns 2 and 3 of table 5, varying percentages of iron in the raw and the cooked give little indication of the actual quantity lost in cooking. The navy beans increase almost three times in weight in cooking, so that even if no loss in iron had taken place the percentage of iron in the cooked beans would be only one-third that in the raw.

More significant is table 5 giving computed and observed losses of iron for all the vegetables.

The vegetables all lost a large percentage of their iron. The loss was least for potatoes with their relatively small amount of surface exposed to the water, and most for spinach with its large surface, potatoes losing about a fifth of the total iron content, peas and beans between one-third and one-half, and spinach approximately one-half. These huge losses show clearly that the method of boiling vegetables in which the water is thrown away is highly wasteful of the important iron constituents.

NORMAL SCHOOL COURSES

Many bodies of teachers are gathered together from time to time to discuss not only their immediate and local problems but many broader principles of teaching or of administration. It seems of distinct advantage when the results of such conferences may be passed from one group to another. The following summary of the conclusions at the New England Conference of Home Economics Teachers, reported in our news column, may be helpful as a basis for similar discussion on the part of normal schools of other sections of the country.

SUMMARY OF DISCUSSIONS

1. The course given in the normal schools should be planned with a definite purpose in mind. This purpose may be one of the following: (a) The preparation of special teachers of home economics for the common schools of the state; (b) The preparation of rural teachers so that they may give lessons in home making or conduct a school lunch in addition to their work of general teaching; (c) The acquaintance of all normal students with the fundamental principles of home economics that they may recognize its place in the general school curriculum; that they may be able to coöperate intelligently with the special teacher of home economics; and that they may be prepared to undertake intelligently the task of homemaking.

Choice of subject matter and the relation of the course to other courses in the curriculum must be considered when planning the course.

2. Time should be allowed for a course of adequate length. Inadequate time allowance makes impossible the training necessary in the normal school. If special teachers of home economics are to be trained, a special course of two years is absolutely essential, and a course of three years is preferable. If the lessons are to prepare rural teachers for handling classes in cooking, sewing, and home making, a general or survey course of five periods a week should be required for an entire year. This course should include or be accompanied by observation and practice in the teaching of homemaking and the preparation of the school lunch in the rural school. The course offered the general student should also be a general course running through the year, five periods a week.

3. The entrance requirements for the course should be defined. This is particularly necessary to the success of the course for the special teacher. Entrance requirements may include scholarship, age, and the completion of previous grade or high school courses in homemaking. Recognition should be given the courses taken in the grades and high school.

4. It is especially necessary that a well-balanced short course be worked out. This course should include simple problems in homemaking, and the elementary study of foods, cookery, textiles, and sewing. It must include both laboratory practice and lecture periods.

FOOD WASTE OF ABOUT $700,000,000

"For partial immediate relief, every individual and community should consider earnestly the matter of food conservation and the limitation of waste. As a nation we seem to have a disdain of economizing. In many homes there is a strong feeling that it is 'only decent' to provide more food than will be eaten and that it is demeaning to reckon closely. The experts of the Department of Agriculture report to me that the dietary studies made by them point to an annual food waste of about $700,000,000. Even if the estimate were reduced by half, the waste would still be enormous.

"The food waste in the household, results in large measure from bad preparation and bad cooking, from improper care and handling, and, in well-to-do families, from serving an undue number of courses and an over-abundant supply and failing to save and utilize the food not consumed. As an instance of improper handling, it is discovered that in the preparation of potatoes 20 per cent of the edible portion in many cases is discarded."—*Secretary of Agriculture, March 3, 1917.*

PROPOSALS presented on April 16, 1917, by Dean Marion Talbot to the Women Students of the University of Chicago by means of which they may share in the defense and preservation of the Nation.

Pledge

Realizing that my country needs the loyal service of all its women, both now and in times of peace, I pledge myself to the tasks I have indicated on this sheet and I will undertake to perform these duties as conscientiously as if I were formally enlisted for military service.

1. I agree to make an effort to increase my physical strength and vigor.

2. I agree to help some young person to increase his physical strength and vigor.

3. I agree to wear a costume adapted to my occupation, avoiding waste and display.

4. I agree to promote economy in food supplies by (*a*) the observance of rational economy in my personal use of food; (*b*) organizing groups of women for the study of food economy.

5. I agree to foster the proper use of foods by learning how to prepare them.

6. I agree to aid in increasing the food supply by (*a*) personally cultivating a plot of land; (*b*) helping to organize groups of children to plant gardens in unoccupied lots.

7. I agree to take an active part in some organized movement for the prevention of infant mortality.

8. I agree to take an active part in a child-welfare agency.

9. I agree to inform myself as to approved methods of school nursing and to do all in my power to introduce this means of conserving the health of children into the schools of my community.

10. I agree to help provide for the children and dependent members of the family of a man or woman "at the front" in war or industry.

11. I agree, realizing that vice and alcoholism in increasing measure accompany war, and believing that future generations should be given by birth the best in health and mind that ethical living among men can bestow, to urge that marriage should take place only among those who can show that they are free from any disease which may be transmitted to future generations.

12. I agree to establish friendly relations with persons whose families came to this country more recently than mine, and in this and every possible way to help promote a feeling of international sympathy.

13. I agree to study the various proposals which have been brought forward for the establishment of a Society of Nations and organized common peace and to do all in my power to build a new social order based, not on mutual distrust and selfish competition, but on confidence and good-will, upon the spirit of service and coöperation.

14. I agree, provided my scholarship and health are adequate, to register for one of the following courses, each to count as a half-major, and taken without fee:

I. *Household Administration 30: Social Service in War Time.*—Assistant Professor Breckinridge, Miss Bird, and Assistants. ½ Mj. Monday, 4:00–5:50. Field work to be arranged.

II. *Home Economics 50: Food: Conservation and Production.*—Assistant Professor Van Hoesen and Assistants. ½ Mj. Monday and Wednesday, 4:35. Laboratory to be arranged.

III. *Physiology 5: First Aid.*—Professor Carlson, Dr. Young, and Assistants. ½ Mj. Monday and Wednesday, 4:30 to 6:00.

Indiana University,
Bloomington, Indiana.

To the JOURNAL OF HOME ECONOMICS:

During the next few months and perhaps for a longer period, there will be a great need for garments, bandages, and many other articles that will be distributed through the Red Cross Society of America. The women of the country are organizing in order to be of as much help as possible. Shall we teachers of home economics neglect our great opportunity to be of service? Why not organize all the textile and clothing departments in the universities and high schools and put ourselves at the disposal of the Red Cross Society in our vicinity? This work need not in any way interfere with the established courses carried on at present, for the students would learn the same principles in making a day shirt for a wounded soldier as they would in making a shirt waist for themselves, and in addition they would derive the benefit of doing something for others.

I am writing this hoping it may reach the JOURNAL before it goes to press and that it may persuade some teachers to start the work this summer. The Red Cross is very glad to assist in any way possible by sending patterns and specifications for garments and bandages. Let us not neglect our opportunities.

ELIZABETH SAGE,
Assistant Professor of Home Economics.

FOR THE HOMEMAKER

CLUB PROGRAMS IN HOME ECONOMICS

HELEN LOUISE JOHNSON

Unprecedented opportunities are presented to all home economics workers at the present time. This is as true of home economics departments in the clubs as it is of the home economics workers elsewhere.

We are confronted with the situation of an actual shortage in certain food supplies. This should be understood and realized in order that a sane and economic procedure may be advised and carried out. For when there is a shortage the only possible relief is through lessening the demand, and saving material.

There is a very great increase in the prices of many household necessities, and the conditions of war surrounding us do not promise an early relief from this pressure. We all need to realize fully that the conservation of every material resource is not alone an imperative need, but a patriotic duty. To teach how to use these resources to best accomplish this desired end falls upon those who have been educated, trained, and experienced in the economics of consumption. To give opportunity for such teaching is the part of the club women, who do represent the organized housewives of this country. And all of it, the teaching, preaching, leading, doing, must be done with extreme care. It requires a clearness of vision, and a sanity of method which will bring the right results. People are to be enthused and inspired to do the right things, but they must be most cautiously kept from doing the wrong. And the wrong are so easy.

The chairmen of home economics departments in the clubs should, if possible, induce the chairmen of other departments to unite with them in a real campaign of education which may not be too greatly interrupted by the summer vacation from club affairs. All of us are being asked to index or register ourselves in organization after organization springing up all over the country under the impetus of patriotic zeal. Much of it is real, but club women and others need to realize that all situations offer opportunities for the self-seeker and those with ulterior

ends in view to promote their schemes. This is the time to move with caution and wisdom, to know before one acts. There is too great a tendency to hurry to *do something* before all the circumstances are investigated and the results of such doing foreseen as clearly as possible.

Club women are already organized. There is no need of duplicating effort, or of wasting money, strength, and time in multiplying organizations. If each one of us has been registered and indexed in as many places and ways as have been presented, there must be millions of us ready to do all sorts of things for which most of us have had no training whatever.

Real preparedness for the events of war necessarily includes the homes of any nation. Europe has learned how to use her food and other supplies. And the moment has arrived when we also have to know these things. But we have to know them actually, not simply as rumors. We must seek the right sources of knowledge and information, and prophets must be raised up everywhere to impress upon the women of this country the extreme importance of their economic function and the need of learning to perform it successfully.

There are many of us, of course, who, with or without reason, have a degree of self-importance. Nevertheless, it is true that one of the most difficult things to teach women is the far-reaching influence of their every economic deed. That the way each spends her money has its impress upon the entire producing world seems too big a statement to be comprehended. But it is true.

The United States is not stigmatized as a spend-thrift nation because of the way Congress spends millions or billions extravagantly, or in ways which some deplore. It is because it is a spendthrift nation in its homes, and because it has failed to conserve carefully its great natural resources, forests, water, coal, oil, and other things. But now we have to forget the things we have done or failed to do, while we stiffen every moral fiber and learn the great lesson war teaches, that of self-sacrifice.

It is each woman's duty, it is her paramount business, to realize that the way in which her wealth is used assists or retards the progress of the country, therefore at this particular time she must learn to use all her resources in the right way, and spend her money for the right things.

When one reads the statement made at a recent convention of shoe manufacturers, that every inch added to the height of women's shoes adds a million dollars to their cost, it would seem that we might all

realize what it means to the consumer. Yet it has to be pointed out that this is one of the unnecessary ways in which the wrong choice has added to the cost of living. We pay the extra million dollars. The consumers always pay, and we all pay for the ignorance, the thoughtlessness, the selfishness, the ridiculousness of others.

The majority of housekeepers, even those many who are desirous of producing the best results in homemaking, and learning all they can of scientific management, need to see that their entire procedure is necessarily modified and directed by the economic laws many of them have never learned. Because they have not learned these they are too frequently kept from seeing their Business Big. Nor is theirs the only failure. Home economics teachers themselves are far too fond of dwelling upon details rather than results. Many neither teach nor preach the reason, the ultimate reason, for the study of nutrition, the chemistry of foods, the physics of heat, and the bacteriology of yeasts and molds. And if the women, careful, painstaking, conscientious as they may be, only see in their housekeeping the daily, often tiresome tasks of planning or cooking three meals a day, of keeping the house clean and tidy, buying the supplies and using them again, an endless round of liked or disliked duties, why should they crowd the assembly room on home economics day to learn about duties so tiresome to perform?

The fact is if they often will not come to a home economics lecture unless enticed by the kindergarten method of seeing some other woman prepare recipes which may give them new ideas of fancy dishes for company affairs, it is largely because we have failed to instill into the programs the interest which home economics so surely has. Now come war conditions, and the opportunity is ours. For, as surely as Europe has rolled up an appalling war debt, just so surely will economic pressure come upon us. It is already felt.

There is already a lessening of available agricultural products for our own use. Here are certain known facts. The annual consumption of wheat in the United States in the form of flour is approximately 5,000,000,000 bushels. Or, measured in barrels, the annual consumption of flour is a barrel per capita. The shortage of wheat last year and the demand upon us to feed our allies makes probable the reducing of our supply of flour below this barrel mark.

At once the necessity is forced upon us to know how to substitute other things, and this means that each of us must know the food value and the use of other grains and food materials, what may be substituted

for wheat flour, and what may not. For this very shortage is going to pave the way for unwise legislation, for wrong deeds and misrepresentations as to the value of mixed flours, and the use of wrong substitutes.

At the second Pan-American Scientific Congress held in Washington in December, 1915, Dr. Lafayette B. Mendel, Professor of Physiological Chemistry in the Sheffield Scientific School of Yale University, presented a paper on Changes in the Food Supply and Their Relation to Nutrition, which has since been issued in book form by the Yale University Press. I wish to quote from that paper, because all of it bears so fundamentally upon our present food problem.

> The development of commerce among nations having adequate means of communication has rendered the distribution of food materials easy and developed a sense of security (under normal conditions) against failure of food supplies. The growing organization of transportation facilities has encouraged the introduction of dietary changes never thought possible or even contemplated a few generations ago. Incidents associated with the altered distribution of wealth have improved the nutrition as well as other conditions of living among that large group of our population which has been termed the "healthier well-to-do classes."

The supply of food energy and its availability where needed are interrelated closely with a variety of factors, the bearing of which upon the problem at hand is not always evident upon the surface. Some of these features may be classified superficially as follows:

1. Food production.
2. Food preservation and food conservation.
3. Transportation facilities.
4. Customs in diet.
5. Changing industrial and social conditions, and other economic and hygienic factors.

This seems to indicate a program of study or investigation of extreme need and very great interest at just this time. In order that we may unite in learning how to use our food stuffs we must first know the common facts about them, such things as necessarily affect both the cost and the price. For instance, some months ago when I was speaking in a Middle West city, a woman in the audience asked "Miss Johnson, when are tomatoes in season here?" And she actually did not know. Tomatoes were in the market all the year. Their price varied, but it was reaching a sort of level, a mean between the previous extremes of the high prices of winter and the low ones of early fall.

Would it not be a wise plan for each community to call its women's clubs together, and organize a sort of self-educating conservation movement? There are available sources of actual knowledge in every village, city, or town. The grocer and the farmer, the dairyman and the butcher know the facts relating to the obtaining, selling, and distributing of the commodities they handle. These producers do not need investigating. They need sympathetic coöperation. Wherever it is possible to have real community meetings in which men and women could join together in a discussion of cost and price, and all the factors that govern these, it would create confidence, establish understanding, and undoubtedly assist in regulating conditions.

In order to regulate prices, housewives must learn what they do on their side to increase them, and how they may by concerted effort lessen some of this expense. This problem of the food supply is a matter of supreme importance, for physical efficiency is dependent upon it. And we must at this time learn how to buy and use all food stuffs to their best advantage. Getting the worth of one's money in foods means buying the most adequate nutrition at the lowest price. Yet that is not all there is to the home economics program. We hear so much about the cost of food we might be led to think it is the only household commodity that has risen in price. Even if this were so we would have more to spend on food if we knew how to spend less for other things.

This is the time to study the budget. It is the time to plan heart to heart conferences, not merely between Club members, but between those who grow and make things and those who buy and use them. Out of all this excitement, and agitation and hard times for many, good will come, if we use the opportunities presented to learn how to live simply, properly, and well.

The scientists in the Nutrition Division of the Department of Agriculture have already sent out much data on how to select foods so as to insure a proper diet. They are endeavoring to give the greatest assistance possible in a crisis. This material is intended for the assistance of the homes of the nation, and those in the homes should learn to turn to the Office of Home Economics in that Department for it, and to depend upon it.

Not long ago I heard a teacher of home economics in a certain school say that the chief difficulty they had with the girls was, "But I don't like it." The students would submit plans for meals, and the need of adjustments would be shown, to meet with the reply, "But I don't like

it." Or it would be said, "You should not put these things together," and the answer comes, "But I like it."

This is typical of an attitude not confined to youth alone that indicates a softening of moral fiber, a lack of the resistance bred of self-control and self-sacrifice. There are many things we do not like which we have to accept or bear. There are others we like which we must go without. If we are to really economize, to live within our means in such a way as to conserve the country's resources, and this is a definite way in which we may give loyal, valiant service, we must begin by learning to like things, and to do without some we have liked. It won't hurt us. It will be good for us. Only it must be done not with a martyr's zeal, but with the educated common sense which selects and chooses.

Home economics programs should be formed on the basis of studying values, of learning the community's needs, of investigating household wastes, and knowing the facts on both sides of the counter. There are things to do, many of them. One of the great things is to assist in promoting the home garden movement. If we all grow things to eat, we will have more of them. But do not, oh, do not let the agitator agitate us. And let us fully realize that patriotism like charity begins at home.

GOOD FOOD IS WASTED:

If it gets into the garbage pail.
If allowed to spoil in the home.
If ruined by careless cooking.
If carelessly pared and trimmed.
If too much is served at a meal.

DEMONSTRATE THRIFT IN YOUR HOME

Make Saving, Rather than Spending, Your Social Standard.

THE RELATIVE NUTRITIVE VALUE OF OLEOMARGARINE AND BUTTER

Several questions have arisen in regard to the relative nutritive value of oleomargarine and butter. The following questions were sent to Dr. McCollum, of the University of Wisconsin, whose article was quoted in the December, 1916, JOURNAL.

First. Does oleomargarine contain any of the "Fat Soluble A[1] substance?"

Second. If so, does it contain enough so that it can replace butter in the diet?

Third. Is there any possible objection to its use as a butter substitute provided whole milk, eggs, and meat form part of the diet?

Fourth. If not desirable to substitute it wholly for butter, to what extent might this be done?

His reply follows:

Oleomargarine does contain some of the fat soluble A. This is true for two reasons. There is a small amount of this in the body fat, especially of the herbivora which eat a large amount of the leafy portion of the plant, this part being much richer in fat soluble A than is the seed. As Osborne and Mendel have shown, when beef is melted and allowed to partially crystalize the oil is greatly enriched in the dietary substance in question, whereas the crystals which are filtered off do not contain it. This oil is the basis of the production of oleomargarine.

The body fats of animals are usually churned with milk in the preparation of oleo. I have recently found that approximately half of the fat soluble A in milk is in the fat and half in the fat free portion, that is, it is about thirty-three times as soluble in fats as in water. In the process of churning, the animal fat will pick up a little more of this constituent from the skim milk. Experiments which we conducted a year ago show that 3 per cent of butter fat furnishes the minimum supply of this factor for normal growth in young rats. In comparable experiments 10 per cent oleo was the minimum which would serve this purpose. This answers the first and second questions.

Regarding 3, I see no reason why oleomargarine should be condemned as a dietary constituent, provided the things enumerated are included in the diet. Doubtless many brands of butter substitutes are perfectly wholesome food products.

In the light of what I have said a specific answer to the fourth question is not necessary.

[1] See Jour. H. E., Dec. 1916, pp. 664–666—An Adequate Diet; also Feb., 1917, p. 90.

SOME THINGS TO DO AND SOME NOT TO DO

The present indications are that there is to be a shortage of cereals so that not only every slice but every crumb of bread should be saved "for the safety of the nation," not merely because of the result of saving on the pocket book of the consumer.

There is to be a scarcity of all commercially canned goods. Every housewife should save every particle of perishable fruit and vegetable food and either can or dry it. Cans, either tin or glass, will be difficult to obtain and old fashioned drying of fruits and vegetables should again be practiced. This applies not only to the country with its surplus of food materials, but to the city housekeeper as well. Unused stalks of celery and celery leaves may be dried in the oven or over the radiator and kept for soup or for seasoning, and the same thing is true of many other vegetables.

Save all fats. We are now importing large quantities of butter. Even cottonseed oil has a greatly lessened production on account of the boll weevil.

The Departments of Agriculture in the New England and Middle States are urging the farmers not to kill young animals. If housekeepers will refrain from buying veal and young lamb the farmers will not send them to market.

There is a shortage of paper. Do not burn soiled rags but wash them and sell for paper rags, "not for the personal gain but because of the nation's needs." City people very generally send out the waste papers and rags chiefly because they have no way to burn them, but country people often burn or throw them out to decay. See that they are used. Values have changed. The shortage of material outweighs the labor involved.

Save every particle of old linen, sheets, and white goods because of the need of these in all hospitals.

Woolens will be absolutely out of the market by fall. Plan to remake and extend the usefulness of the family's fall and winter clothing.

Save your shoes and wear them longer and so help prevent a shortage of leather.

Do not lay in a stock of food material beyond your needs. The buying up of large quantities will only tend to raise prices. If there is to to be a shortage of any particular material go without it if you can. Some one else may need it more.

There has never been so good an opportunity to teach and practice care of clothing that it may last longer, saving of food material that there may be enough for all. The woman who has hesitated to enforce the economical use of materials in her household for fear of the misjudgment of her liberality may now realize that what once was household efficiency has become a national duty, and she will meet a response from family and employee.

DO YOUR BIT

President Wilson issues the following appeal to all the people of the nation urging them to join the great service army.

To FARMERS.—Increase the production of your land and coöperate in the sale and distribution of your products.

To MEN AND BOYS.—Turn in hosts to the farms to help cultivate and harvest the vast crops imperatively needed.

To MIDDLEMEN.—Forego unusual profits and "organize and expedite shipments of supplies."

To RAILWAY MEN.—See to it that there shall be no "obstruction of any kind, no inefficiency or slackened power" of the "arteries of the nation's life."

To MERCHANTS.—Take for your motto, "Small profits and quick service."

To SHIPBUILDERS.—Speed construction of ships, for "the life of the war depends upon" you.

To MINERS.—If you "slacken or fail, armies and statesmen are helpless."

To MANUFACTURING MEN.—"Speed and perfect every process," for your "service is absolutely indispensable" to the nation.

To GARDENERS. By creating and cultivating gardens you can help "greatly to solve the problem of feeding the nations."

To HOUSEWIVES.—ELIMINATE WASTEFULNESS AND EXTRAVAGANCE.

To EDITORS AND ADVERTISING AGENCIES.—Give widespread circulation and repetition to this appeal.

LOSSES IN COOKING VEGETABLES

The results given in the article in this number (p. 213) on losses of Iron in Cooking Vegetables are of as much interest to the housekeeper as to the teacher.

Potatoes, pared before boiling, lost into the water in which they were cooked about one-fifth of the iron they contained; peas and beans lost from one-third to two-fifths, and spinach one-half of the total amount present. This variation is because of the relative amount of surface exposed in the different vegetables.

The amount of iron in our foods is small. Its importance to the body is great. We should conserve it to the greatest possible extent. To do this we should either steam our vegetables or use the water in which they are cooked. If potatoes are to be boiled and the water thrown away, they should be boiled "in their jackets."

So far as potatoes are concerned, with the present scarcity, the waste necessarily involved in paring before cooking should be eliminated.

SOME HELPFUL BULLETINS

Send to the Department of Agriculture, Washington, D. C., or to your representative or senator for Farmers' Bulletin 808, How to Select Foods, I. What the Body Needs. Send also for Farmers' Bulletin 391, Economical Use of Meat in the Home. Farmers' Bulletin 487, Cheese and Its Economical Use in the Diet. Send to the Superintendent of Documents, Washington, D. C., for Department Bulletin 469, Fats and Their Economical Use in the Home, (Price 5 cents).

A BABY WEEK EXHIBIT

The National Child Welfare Exhibit Association is offering a Parcel Post Exhibit on Healthy Babies and Healthy Children. This would be of great service in connection with baby week celebrations. It could afterwards be made available for Women's Clubs, Health Conferences, Church Societies, Parent Teacher Associations.

It may be obtained from the headquarters 70 Fifth Avenue, New York City.

STUDENTS' CONTRIBUTIONS

There is still a prevailing opinion, even among educated people, that high school work in home economics means nothing more than the teaching of cooking and sewing.

The following paragraph written by a sixteen year old high school senior in her first year of home economics work shows that in this school, at least, there are other aims in view.

This was written as a theme for part of an examination, after the quotation from Miss Arnold in the November number of the JOURNAL had been given to the class, with questions upon it.—The Editor.

HOME MANAGEMENT

ALTA BOYLEN

High School, Pendleton, Oregon

No woman can rightly or wisely administer a home unless she has a clear sense of proportion. By proportion we mean the ability to distinguish the important duties from the unimportant duties. A woman who spends her time fretting about the unimportant things in a home will never become an efficient administrator of that home. While I think that keeping the house clean is of importance, I do not think that it is of as much importance as keeping the minds and ideals of the family pure and clean.

The thing which is always and forever essential should be perfectly clear to her. She should know what influences tend toward the betterment of home life and should plan her work accordingly. She should know that the essentials of any home are: system, godliness, and hospitality.

The tricks, fashions, and devices which add to our conveniences should be brought to their proper places in our thinking. We should not grow into the habit of thinking and wondering all the time what new device we can buy which will make our life easier, but we should plan how to use what we have. We should not deem it necessary to purchase every little bauble which we think will add to our comfort; in many cases these things are not of much help after we buy them.

The home is for the citizens of our country. It is the place where the children should learn the right principles of life; where they should get

the training which will enable them to go out and grapple with the problems of life. The homes of the people are the foundation of the strength of our national government and should be built upon a solid basis of truth and righteousness.

The home should be refined. If the children do not learn refinement in the home, where will they learn it? The atmosphere of the home should be one of restfulness and simplicity. It should be tastefully furnished with many good books and pictures which will stimulate the minds of the children to think along educational lines. It should be orderly and systematic. This will incite the children to think along these lines. If we live in a disorderly house our minds soon become disorderly and we cannot think clearly on the problems which are sure to confront us all through life. It should also care for the physical development of the child, and see that he gets the right principles and training in health and sanitation.

In short it should minister to him physically, mentally, and morally.

A STUDY OF AMOUNTS SPENT FOR FOOD MATERIALS

This study was carried on by Miss Ruth Sweat, '16, Montana State College, Bozeman, Montana, among fourteen faculty families beginning February 27, 1916, and ending May 15, 1916, for the purpose of obtaining information concerning:

1. The amount of money spent for food materials;
2. The percentage of the total food expenditure spent for each class of food materials;
3. The variations of expenditure in the families with children and in the families without.

It will be seen from the tables below that the largest item in the majority of cases is in the dairy column, especially where there are children in the family. The greatest variance is in the meat. In one case the meat expenditure is five times as large as in another, with the same number in the family.

The percentage spent for fruit and cereals was higher in the families with children, while the vegetable expenditure ran much higher in the families without children.

Weekly average expenditure for each food material

FAMILY	NUMBER OF ADULTS	NUMBER OF CHILDREN	AGES OF CHILDREN	MEAT	EGGS	DAIRY	FRUITS	CEREAL	VEGETABLES	NUTS	FATS	SWEETS	MISCELLANEOUS
A	3			$0.78	$0.63	$2.28	$1.30	$0.73	$0.68	$0.07	$0.12	$0.54	$0.51
B	2	1	Under 1 yr.	Left	at the	end	of thi	rd we	ek.				
C	2			.50	.26	1.48	.31	.86	.51	.037	.07	.74	.17
D	2	2	7, 13,	1.32	.50	1.72	1.00	.72	.56	.22	.008	.98	.87
E	3	2	2½, 4½,	2.14	1.09	3.08	1.36	1.27	.77	.21	.40	1.73	.58
F	3 for 8 wks. 2 for 12 wks.			2.50	.51	1.94	.76	.65	.80	.11	.000	.84	.47
G	4	2	Under school age	1.73	.48	1.82	.64	1.25	.75		.36	.69	.31
H	2	1	4½	1.29	.54	.83	.50	.74	.60	.000	.187	.07	.36
I	2	2	8, 11,	1.38	.89	1.79	1.23	.71	.90	.17	.09	.30	.50
J	2			1.01	.52	.91	.38	.32	.43	.000	.10	.26	.65
K	2		3–12, 14, 15	1.88	1.08	1.98	1.75	1.08	1.12	.33	.19	1.08	.65
L	2			.97	.39	.63	.43	.49	.42	.09	.11	.38	.82
M	2	1	9 mos.	Data	not c	omple	te eno	ugh t	o use.				
N	5	1	6	2.56	1.17	2.41	1.53	1.31	.82	.10	.43	.97	.68

Percentage spent for each food material

FAMILY	NUMBER OF ADULTS	NUMBER OF CHILDREN	AGES OF CHILDREN	MEAT	EGGS	DAIRY	CEREALS	FRUITS	VEGETABLES	NUTS	FATS	SWEETS	MISCELLANEOUS
				per cent	*per cent*	*per cent*	*per cent*	*per cent*	*per cent*	*per cent*	*per cent*	*per cent*	*per cent*
A	3			10.0	8.3	29.7	9.5	17.0	8.0	0.009	1.5	7	6.7
B	2	1	Under 1 yr	Left	at the	end	of the	third	week				
C	2			10.0	5.5	29.9	17.3	6.0	10.0	0.007	1.0	14.9	3.2
D	2	2	7, 13,	16.5	6.3	21.5	9.0	12.4	7.0	2.0	0.001	12.3	10.0
E	3	2	2½, 4½,	17.0	8.0	24.0	10.0	10.0	6.0	1.7	3.2	13.0	4.6
F	2 for 12 wks. 3 for 8 wks.			29.0	5.95	22.55	7.64	8.9	9.29	1.3		9.82	5.46
G	4	2	Under school age	21.6	5.9	22.7	15.6	7.1	9.4		4.5	8.6	3.8
H	2	1	4½	24.5	10.3	15.7	14.1	9.4	11.4		3.5	1.3	6.8
I	2	2	8, 11,	17.0	11.0	22.0	8.8	15.0	11.3	2.0	1.1	3.7	6.0
J	2			22.0	11.0	19.0	7.0	8.0	9.0		0.1	5.0	14.0
K	2	3	12, 14, 15,	16.9	9.7	17.8	9.7	15.7	10.7	2.9	1.6	9.7	5.8
L	2			20.4	8.3	13.3	10.2	9.1	8.7	1.9	2.2	7.9	17.2
M	2	1	9 mos.	Data	not c	omple	te eno	ugh t	o use				
N	5	1	6	21.3	9.8	20.1	10.8	12.8	6.8	0.97	3.6	8.1	5.7

EDITORIAL

The Cost of Living and the Present Crisis. A few weeks ago the cost of living was occupying a large part of the attention of the housekeeper. How to spend less money and still have adequate food, shelter, and clothing, and how to best distribute the amount to be spent were her serious problems. In a moment her whole point of view changed. The question today is not the saving of money but the conservation of resources. It is alike necessary for the rich and the poor. If one has enough money it is of comparatively little account how many purchases be made of luxuries or of materials of which there is a plentiful supply, but it is a very important matter that only the most necessary amounts be bought of materials of which there will probably be a shortage. It is as important for the richest person in the country to save waste in wheat, in potatoes, and in similar food materials as it is for the poorest.

There has perhaps never been so great an opportunity for the teacher of home economics to gain a hearing; there has never been a time when it is so inexcusable for her in class room work to use materials carelessly or wastefully. No amount of precept will take the place of practice. Attention even to minor details of saving must be hers.

If the public school teacher can impress upon her school children that the saving of material is a service to the country, and that it is just as important as the production of more material, she may be able not only to help in the present crisis but perhaps become a large factor in inculcating habits of thrift that will be of far greater value than any manipulation of materials the children might learn.

Not only the teacher of food but the teacher of sewing has this opportunity. If woolen materials are to be short this gives reason for emphasizing the repair and the care of such materials.

It is in these simple and humble ways quite as much as in the more spectacular ones that real service may be given. In the President's call for service to different groups of people perhaps none is more needed than that to the housewife—"Eliminate Waste."

Conservation of Effort. While we are planning carefully the conservation of food and other materials we should be at least equally careful to conserve effort. With the desire on the part of everyone to contribute in every possible way to the nation's need there is danger of useless duplication of effort, of lack of coöperation, of fruitless repetion of work that has already been done, and possibly of unwise competition. While it is true that many may be reached by one type of organization that would not be touched by another, there should be careful coöperation, not working at cross purposes.

In some of the public school systems the good suggestion has been made that a series of leaflets on conservation of food be prepared and distributed to the homes through the children. In some places teachers already over-worked are asked to prepare such circulars. Might it not be possible to take the Food Thrift series of articles sent out by the Department of Agriculture and use these, with such slight adaptation as would be necessary, rather than to undertake to prepare in a limited amount of time a wholly new series? Prepared by experts, with authoritative sources of information directly at hand, these presumably will be better than those prepared in haste, without such resources. The letters sent out by the Children's Bureau might also well be used.

A New Committee of the Association. It seems appropriate that the American Home Economics Association should have followed up the offer of its services to the government by the appointment, through the Council, of an Emergency Committee to act in an advisory capacity to any one needing help in our special field.

Miss Isabel Ely Lord has consented to act as chairman, with Mrs. Annie Nathan Meyer, now chairman of the Home Economics Committee of the National Special Aid Society, as vice-chairman. The members of the committee have been chosen to represent different sections of the country, with the power to form local committees as needed.

An office of information in New York should help to show the many women not now reached in other ways, and to emphasize over again to others, how they may help the nation by wiser methods of administration in their own homes. The committee will plan to coöperate with the Department of Agriculture and with Mr. Hoover, the newly appointed Food Commissioner.

Members of the Committee: Isabel Ely Lord, Chairman; Mrs. Annie Nathan Meyer, Vice-chairman; Sarah Louise Arnold, Massachusetts; Edith Baer, Pennsylvania; Josephine T. Berry, Minnesota; Isabel

Bevier, Illinois; Charlotte Ebbets, California; Charlotte Ullrich, Ohio; Martha Van Rensselaer, New York; Mary Gearing, Texas; Caroline L. Hunt, Washington, D. C.; Abby L. Marlatt, Wisconsin; Effie Raitt, Washington; Mary E. Sweeney, Kentucky; May B. Van Arsdale, New York City; Louise Stanley, Missouri; Agnes Harris, Florida; Mrs. Henrietta Calvin, Washington, D. C.

Ex-officio members: Catherine J. MacKay, President; Mrs. Alice P. Norton, Secretary.

NOTICES

To the Members of the Institution Section of the American Home Economics Association:

Owing to the very unsettled conditions throughout the country at present, it has been decided by the Executive Committee of the Institution Section not to attempt to hold their meetings at Lake Placid Club, June 16 to 19, 1917.

The Committee regrets the necessity for taking this action, for the response has been a very hearty one, both from members, and others whom we have asked to take part in the program. The session as planned promised to be a very interesting one, but our hope is to present the subjects at another year's meeting.

The Committee has expressed heartiest appreciation of the invitation which had been extended by Mr. and Mrs. Dewey to meet at Lake Placid Club this year.

We shall appreciate it if the different members will pass on this word of the cancelled meeting to institution workers whom they may know.

Since the above letter was sent to different members of the Institution Section, the Committee finds that there will be two or three opportunities for helpful conferences for institution workers during the year. An endeavor will be made in the early part of the summer session at Teachers College to have a day or two given over to talks and round-tables on certain problems of interest to institution workers. It is possible that certain speakers may be obtained then who were scheduled for the Lake Placid Meeting. Also, a special program on lunch-room management is being arranged for a session at the General Meeting of the American Home Economics Association in August.

Another plan is under consideration,—that of having a conference of special interest to dietitians, as definite dietitian organizations have been formed in Boston, Chicago, New York and Philadelphia.

With some of these special conferences in mind, we feel that many of the institution members who regret the postponement of the meeting this year will be able to avail themselves of these conference opportunities.

EMMA H. GUNTHER,
Chairman of the Institution Section.

The meeting of the National Education Association is to be held July 7–14 in Portland, Oregon.

The American Home Economics Association will hold a session on either July 9 or 10, in connection with the meeting of the National Education Association. Miss Ava B. Milam, Oregon Agricultural College, Corvallis, Oregon, is chairman of the program committee. The other members of the committee are Mrs. Ellen Dabney, Miss Alice Ravenhill, Miss Lillian Tingle, Mrs. Edna Robbins, and Mrs. Mary Schenck Woolman. Suggestions for the program will be welcomed.

On July 6 and 7, just preceding the N. E. A., there will be a conference of supervisors in home economics in city public schools. Mrs. Calvin is in charge of the program and asks for suggestions as to topics of greatest interest, and as to difficulties encountered by those organizing and administrating home economics departments.

The headquarters for the Association and the Conference will be the Seward Hotel. This has a rate of $4 per day for two rooms with bath between, or $6 for the two rooms if occupied by three people. Other rooms without bath but with hot and cold running water can be secured at a less rate.

The railroad rates have been fixed at $55 round trip from Missouri River points, and $67.50 from Chicago.

The National Conference of Charities and Corrections will be held in Pittsburgh, Pa., June 6–13. A preliminary program may be obtained from the headquarters of the Conference, 315 Plymouth Court, Chicago. An unusually large number of the meetings will be of especial interest to those who are working for the home.

Response has been received from a number of applicants to the offer of the JOURNAL in the April issue to act as a mediator between those

desiring summer positions and those desiring teachers. The letters are on file in the office at Baltimore and will be forwarded to any departments who wish to secure such services.

The following household account books have come to the attention of the Committee on Budgets since the list was published in the October, 1916, number of the JOURNAL, and they are now offered as a supplementary list.

The Personal Account Book, National Board, Y. W. C. A., 600 Lexington Avenue, New York City, $0.10.

The Family Expense Book, Stewart & Kidd, Cincinnati, Ohio, $0.35.

How Much Can We Save, E. R. Thoma, Olympia High School, Olympia, Washington, $1.

The Economizer-Household Account Book, Otto A. Jeschien. Smith Bros., 472 13th Street, Oakland, California.

Thrift Through Household Accounting. Published for Ellen H. Richards Home Economics Fund American Home Economics Association, 1211 Cathedral St., Baltimore, Maryland, $0.15. Fifty or more copies, ten cents each.

Lantern slides of some fifteeen household account books have been prepared by the Committee on Budgets and can be purchased through the JOURNAL at 40 cents each; they will be found useful in class discussions and lecture work, as the account forms can thus be thrown upon the screen large enough for an audience to consider.

The Committee will be interested to have information in regard to other account books available. Please communicate with the chairman, Benjamin R. Andrews, Teachers College, New York City.

BOOKS AND LITERATURE

Any book or periodical mentioned in this department may be obtained through the JOURNAL OF HOME ECONOMICS if the Journal price is listed.

Control of Hunger in Health and in Disease. By ANTON J. CARLSON. Chicago: University of Chicago Press, 1916. Pp. 319. $2.00. By mail of the Journal, $2.14.

The teacher of dietetics is constantly hampered by the fact that this is a subject upon which almost every one feels himself an authority to some extent at least. Few realize how widely at variance are "the dictates of experience" as promulgated in different sections of the country or by different persons in the same section; only a long experience in vain efforts at reconciling dietetic maxims reveals the disorganized state of the subject, even in scientific circles. One does indeed begin to feel that "mebbe it 'd be better, not to know so many things, than to know so many things that ain't so." Meanwhile the very men who, it would seem, should have the largest say in dietetics,—the physiologists and physiological chemists—are for the most part maintaining a discreet silence concerning many critical points.

Here is a book which deals, in thoroughly scientific fashion, with such questions as the following:

Are both *hunger* and *appetite* necessary to maintain proper nourishment of the body? Does either augment, or decrease, or occur independently of the other? Does the drinking of water increase or diminish appetite? hunger? Does it matter (in this regard) whether the water is cold or warm? Can alcoholic beverages inhibit hunger and at the same time increase appetite? What is the effect of acid, of alkaline reaction of foods, upon these two physiological phenomena? Is "appetite juice" really necessary to normal nutrition? Is occasional starvation, or fasting, a beneficial hygienic measure, after all? How often should an infant be fed? What is the relation of hunger contractions to digestion contractions of the stomach? Is there such a thing as hyperacidity of the gastric juice? Is there any justification for the medical administration of pepsin? Are bitter tonics ever beneficial? What is the cause of the excessive hunger of pancreatic diabetes? of some hyperaemic conditions of the skin (mange in dogs)? What is the cause for lack of desire to eat, in fevers, acute infections, gastritis cases?

It is true that not always can categorical answers be given to such questions as the above. Yet it is to this sort of book,—the book whose author has critically sifted the available evidence,—that those of us turn, who find ourselves compelled, upon occasion, to give categorical answers to impossible questions from a general audience.

Professor Carlson and his associates and students at the University of Chicago have for several years worked upon various details and aspects of the questions, what is the hunger mechanism, how may it be controlled, what is the relation of hunger to appetite? They have made many observations and done much experimental work with an "Alexis St. Martin the Second," a Bohemian, who twenty years ago swallowed caustic soda, and subsequently suffered a closure of the esophagus such that he has since that time taken all food and drink through a gastric fistula. They have also very largely used the balloon method of studying stomach contractions; animals, normal men, men suffering from various diseased conditions, infants, have swallowed these balloons, and tracings have been re-

corded on revolving drums, showing activities of the stomach.

Doubtless it is true, that many of the points here discussed, will remain subjects of more or less controversy for some time to come. Yet the beginner in physiology who goes through the book with one finger between the pages of a medical dictionary, and the critical reader alike, can hardly fail to be impressed with the ingeniously planned, patiently collected, carefully correlated mass of experimental evidence presented in Dr. Carlson's book.

MINNA C. DENTON.

Food and Health. An elementary text book of home making. By HELEN KINNE AND ANNA M. COOLEY. New York: The Macmillan Company, 1916, pp. 312. $.65. By mail of the Journal, $.75.

A unique and most interesting book for use in elementary schools, especially in rural communities. The keynote is the relation of the child to the home, the relation of the school to the community, the general plan of the book being set forth in the opening sentence: "This is a story of the way in which the mothers and fathers, the teachers and pupils, and their friends in the township work together to make the broad valley in which they live truly a Pleasant Valley."

The six chapters of the book are:

1. An introductory chapter dealing with the functions of food expressed in simple language with illustrations that country children will understand.

2. Luncheon at school, including the consideration of the lunch box brought from home and the possibility of the preparation of food at school. Suggestions are given for simple equipment, making possible the serving of a hot dish each day, and for the management of a "lunch club" for that purpose.

Chapters 3, 4, and 5 deal with the home meals, supper, breakfast, and dinner. These lessons are planned for execution in the home rather than in the school, are full of excellent information regarding the production, selection, cooking, serving, and eating of the foods that are common and plentiful on the farm and in small towns. Convenience in arrangement of kitchen, good methods in housework, labor saving devices, correct ideas of sanitation are also dwelt upon.

Chapter 6, entitled "Other Facts about Food" includes a study of 100 calorie portions and the buying and selling of foods. Suggestions are made for ways in which boys and girls on the farm may earn money and the work of canning clubs is described.

"Pages from a student's note book" in the back of the book show the possibilities in the use of the text and will be helpful to the inexperienced teacher as well as to the student.

The fact that the book is intended for use in schools where there is no equipment for cooking and where food work must be given as a part of the general program and not as a special subject, will make it a welcome addition to text books on domestic science.

It will be useful in normal schools where teachers of rural schools are being trained and will also be very suggestive to any teacher of elementary food work and to general grade teachers who are interested in unifying the interests of the school and the home.

HELEN M. DAY,
Head of Dept. of Domestic Economy, Bradley Polytechnic Institute, Peoria, Ill.

The New Interior. By HAZEL H. ADLER. New York: Century Company, 1916, pp. 315. $3.00. By mail of the Journal, $3.17.

Upon no theme has there been greater need of fresh and vigorous writing than upon the subject of interior decoration. It is with rare expectation, therefore, that one picks up a copy of The New Interior, by Hazel Adler, and with a slight sense of unfulfillment that one lays it down. Perhaps the title of the book and the daring cover lead one to expect too much, to anticipate some original or advanced idea; whereas the actual content of the book is but a fresh, free handling of the old subject.

The New Interior is distinctly a voice from the craftsman world. It deals essentially with the decorative idea; is pictorial and imaginative in its tone rather than practical. The view point is that of the artist whose interest lies in creating effects, rather than that of the homemaker who must live

with them. Far from being a defect, this waiving of practical discussion has the advantage of keeping the mind focused on the ideas presented, rather than on the ways and means whereby they will be carried out. One is thereby at liberty to follow the succession of interior pictures which the writer unfolds in her description. This exercise stimulates the imagination and produces a lively sense of resourcefulness which is more valuable to the layman than a whole bookful of fixed directions.

The main impression of the book is that of color. One comes out of its perusal fairly reeking with color. It is here that the modern note is most distinctly felt. The vivid hues, the violent contrasts, and the startling combinations of color make one long to draw a veil over the whole arrangement. While a free use of highly keyed untraditional harmonies is very refreshing and is certainly expressive of the times, it must be remembered that this phase represents the extreme swing of the pendulum and that we have yet to come back to equilibrium. The inserted color chart, which sets forth a theory of color based upon its analogy to the musical scale, is interesting as an intellectual idea and may form the basis for an illuminating variety of experiments; but like most formulae, it is chiefly of value to those who know enough to get along without it.

In a few places the book sags into triviality,—as, for instance, in Chapter V entitled "The Emancipation of the Dinnertable." After an excellent interpretation of what the dining room should be "in action" and "in repose," one is faced with certain illustrations that make one wonder whether, after all, he cares to be emancipated. While, of course, such pictures as those opposite page 108 are to be taken suggestively, rather than literally, still the arrangements there depicted have a feminine, trippy, and unsubstantial air that would give the very shivers to a life-size man. The centerpieces are too dominating and the whole layout is too artificial and dressed up.

The subject described in Chapter XIV, "The Modern Church Interior," is in many ways a foreign note. The idea of a modern church erected by the artisans of a community is educative as an experiment; but as a basis for future progress it is absolutely sterile, because it ignores the fundamental economic conditions of the day.

The most forceful traits of the book are the writer's interpretative ability; the ability to analyze an interior situation and give it meaning or idea; and the natural way in which the principles of decoration are woven throughout the text wherever needed.

Mrs. Adler's style of writing is in no way remarkable. It is the mere interest of the subject matter that carries it. The recital of a series of arts and crafts accomplishments, though a natural tribute of talent to talent, starts the book off heavily and gives it a slight commercial smack. The impression of the book is rather choppy, and in places shoppy, due to the manner in which the material is presented.

In general the text is permeated by an undertone of buoyancy and healthy good sense that is very cleansing. One catches therein the virility of the day without its vulgarity. Whatever may be its lasting value, The New Interior is for the moment as welcome as a breath of fresh air blowing away the stale odor of tradition.

HELEN BINKERD YOUNG, *Architect, Assistant Professor of Home Economics, Cornell University.*

Home Labor-Saving Devices. By RHEA CLARKE SCOTT. Philadelphia, Pa.: J. B. Lippincott Company, 1916, pp. 100. $1.00.

The aims of Miss Scott's book as stated in the preface are "to increase efficiency in the farm home, and to satisfy the growing demand for useful information in the country schools." These aims are admirable in themselves and the book describes simply and clearly a number of useful and ingenious contrivances which any woman or girl who can use a saw and drive a nail can make. The book is of convenient size and will be a useful hand-book. It will be interesting to learn from those who have made actual use of these appliances whether they prove to meet the exacting test of being "worth while."

BOOKS RECEIVED

Letters to a Young Housekeeper. By Jane Prince. Boston: Houghton, Mifflin Company, 1917, pp. 167. $1.35. By mail of the Journal, $1.43.

Opportunities for Women in Domestic Science. By Marie Francke. Philadelphia, Pa.: Association of Collegiate Alumnae, 1916, pp. 64. Paper $.50. Apply to Mrs. Gertrude Martin, 934 Stewart Ave., Ithaca, N. Y.

The Prevention of Disease. By Kenelm Winslow. Philadelphia: W. B. Saunders Company, 1916, pp. 348. $1.75. By mail of the Journal, $1.87.

PAMPHLETS RECEIVED

The following Government pamphlets may be obtained from the Editor and Chief of the Division of Publications, U. S. Dept. of Agr., Washington, D. C., free; or from the Department under which they are issued.

Farmers' Mutual Fire Insurance. By V. N. Dalgren. Separate from Yearbook of Dept. of Agr., 1916, no. 697, pp. 13.

A Federated Cooperative Cheese Manufacturing and Marketing Association. By Hector Macpherson and W. H. Kerr. Separate from Yearbook of Dept. of Agr., 1916 No. 699, pp. 13.

How to Select Foods. I. What the Body Needs. By Caroline L. Hunt and Helen W. Atwater. Farmers' Bulletin No. 808, March 1917, pp. 14.

Turnips, Beets and Other Succulent Roots, and Their Use as Food. By C. F. Langworthy. Farmers' Bulletin No. 503, March 6, 1917, pp. 19.

Control of Pollution of Streams. By Earle B. Phelps. U. S. Public Health Service Reprint No. 384, Jan. 26, 1917, pp. 8.

Mental Status of Rural School Children. By E. H. Mullan and others. U. S. Public Health Service Reprint No 377, Nov. 17, 1916, pp. 30.

Educative and Economic Possibilities of School-Directed Home Gardening in Richmond, Ind. By J. L. Randall. Bureau of Education Bulletin, 1917, No. 6, pp. 25.

Maternal Mortality from Conditions Connected with Childbirth. By Grace L. Meigs. Childrens' Bureau, Miscellaneous Series No. 6, Bureau Pub. No. 19, pp. 66.

The following are issued by the publishers listed.

The Care of the Baby. Prepared by a Committee of the Amer. Assn. for the Study and Prevention of Infant Mortality. Ext. Div. of Univ. of Minnesota Agr. Ext. Bul. No. 62 (Minnesota Farmers' Library), Oct. 1916, pp. 8.

House Equipment for Running Water. By J. L. Mowry. Minnesota Farmers' Library Bul. No. 61, Aug. 1916, pp. 8.

Inexpensive Foods. Corn Meal. By Bessie R. Murphy. Home Economics Circular No. 6, March, 1917, pp. 4. Also *Rice for Breakfast, Dinner and Supper.* By Bessie R. Murphy. Home Economics Circular No. 5, Feb. 1917, pp. 6. Bureau of Farm Development, Business Men's Club Chamber of Commerce, Memphis, Tenn.

Child Hygiene. By Kansas State Board of Health, Division of Child Hygiene, Topeka, Kans. Vol. xii, No. 6, June, 1916, pp. 376–420.

How to Can Fruits, Vegetables and Meats. By New Housekeeping Department of the Ladies Home Journal. Philadelphia: Curtis Publishing Co., c1916, pp. 23. $0.15.

BIBLIOGRAPHY OF HOME ECONOMICS

PERIODICAL LITERATURE

Foods and Cookery

The Salicylic Acid Reaction of Beans. H. C. Brill, *Philippine Jour. Sci.*, Sect. A, 11 (1916), no. 2, pp. 81–89.

Canned Sea Urchin. F. T. Shutt, *Canada Expt. Farms Rpts.* 1915, pp. 149, 150.

Annual Report of the Dairy and Food Commissioner of Virginia. B. L. Purcell, *Ann. Rpt. Dairy and Food Comr. Va.* [8], (1915–16), pp. 20 + 50 + 63 + 55 + 63.

Report of the Dairy and Food Commissioner for the Year 1914. B. L. Purcell, *Ann. Rpt. Dairy and Food Comr. Va.* [7], (1914–15), pp. 64.

[South Dakota Food and Drug Law] *Vermilion, S. Dak.: State,* 1916, pp. 15.

A Polariscopic Determination of Sugar in "Condensed Milk." R. O. Brooks, *Jour. Indus. and Engin. Chem.*, 8 (1916), no. 11, pp. 1023, 1024.

The Determination and Distribution of Moisture in Bread. H. L. Wessling, *Jour. Indus. and Engin. Chem.*, 8 (1916), no. 11, pp. 1021–1024.

Factory Control in the Manufacture of Cornstarch and Corn Sirup. A. P. Bryant, *Jour. Indus. and Engin. Chem.*, 8 (1916), no. 10, pp. 930–932.

The Chemical Control of Gelatin Manufacture. J. R. Powell, *Jour. Indus. and Engin. Chem.*, 8 (1916), no. 10, pp. 932, 933.

Flour Milling Problems. Harry Snyder, *Jour. Indus. and Engin. Chem.*, 8 (1916), no. 10, pp. 934–940.

A Comparison of Methods for the Determination of Casein in Milk. C. B. Hersey, *Jour. Indus. and Engin. Chem.*, 8 (1916), no. 4, pp. 335, 336.

The Casein of Goats' Milk. A. W. Bosworth and L. L. Van Slyke, *Jour. Biol. Chem.*, 24 (1916), no. 3, pp. 173–175.

The Soluble and Insoluble Compounds of Goats' Milk. A. W. Bosworth and L. L. VanSlyke, *Jour. Biol. Chem.*, 24 (1916), no. 3, pp. 177–185.

A Comparison of the Composition of Cow's Milk, Goats' Milk, and Human Milk. A. W. Bosworth and L. L. VanSlyke, *Jour. Biol. Chem.*, 24 (1916), no. 3, pp. 187–189.

Chemical Changes in the Souring of Milk. L. L. VanSlyke and A. W. Bosworth, *Jour. Biol. Chem.*, 24 (1916), no. 3, pp. 191–202.

The Production of Sweet-orange Oil and a New Machine for Peeling Citrus Fruits. Possibility of the Commercial Production of Sweet-orange Oil from Waste Oranges. S. C. Hood and G. A. Russell, *U. S. Dept. Agr. Bul.* 399 (1916), pp. 19, figs. 10.

The Soy Bean, with Special Reference to Its Utilization for Oil, Cake, and Other Products. C. V. Piper and W. J. Morse, *U. S. Dept. Agr. Bul.* 439 (1916), pp. 20, figs. 3.

The Chemical Composition of American Grapes Grown in the Central and Eastern States. Wm. B. Alwood, et al., *U. S. Dept. Agr. Bul.* 452 (1916), pp. 20.

The Drying for Milling Purposes of Damp and Garlicky Wheat. J. H. Cox, *U. S. Dept. Agr. Bul.* 455 (1916), pp. 11, figs. 3.

The Food Value and Uses of Poultry. Helen W. Atwater, *U. S. Dept. Agr. Bul.* 467 (1916), pp. 29, figs. 2.

Fats and Their Economical Use in the Home. A. D. Holmes and H. L. Lang, *U. S. Dept. Agr. Bul.* 469 (1916), pp. 27.

Physiology and Nutrition

The Vegetarian Diet in the Light of our Present Knowledge of Nutrition. E. V. McCollum, N. Simmonds, and W. Pitz, *Amer. Jour. Physiol.*, 41 (1916), no. 3, pp. 333–360, pl. 1, figs. 19.

A Photographic Method for Measuring the Surface Area of the Human Body. F. G. Benedict. *Amer. Jour. Physiol.*, 41 (1916), no. 3, pp. 275–291, figs. 5.

The Relationship Between Body Surface and Heat Production Especially During Prolonged Fasting. F. G. Benedict, *Amer. Jour. Physiol.*, 41 (1916), no. 3, pp. 292–308.

The Distribution in Plants of the Fat-Soluble A, the Dietary Essential of Butter Fat. E. V. McCollum, N. Simmonds, and W. Pitz, *Amer. Jour. Physiol.*, 41 (1916), no. 3, pp. 361–375, pl. 1, figs. 11.

The Relation of the Unidentified Dietary Factors, the Fat-Soluble A, and Water-soluble B, of the Diet to the Growth-promoting Properties of Milk. E. V. McCollum, N. Simmonds, and W. Pitz, *Jour. Biol. Chem.*, 27 (1916), no. 1, pp. 33–43, figs. 6.

Studies on Experimental Scurvy in Guinea-Pigs. Leila Jackson and J. J. Moore, *Jour. Infect. Diseases*, 10 (1916), no. 3, pp. 478–510, figs. 14.

Studies on the Digestibility of the Grain Sorghums. C. F. Langworthy and A. D. Holmes, *U. S. Dept. Agr. Bul.* 470 (1916), pp. 31.

The Use of Energy Values in the Computation of Rations for Farm Animals. H. P. Armsby, *U. S. Dept. Agr. Bul.* 459 (1916), pp. 31.

Dietary Deficiency as the Etiological Factor in Pellagra. E. B. Vedder, *Arch. Int. Med.*, 18 (1916), no. 2, pp. 137–172.

The Influence of Diet on the Development and Health of the Teeth. J. I. Durand, *Jour. Amer. Med. Assoc.*, 67 (1916), no. 8, pp. 564–565.

Effect of Autolysis upon Muscle Creatin. R. Hoagland and C. N. McBryde, *U. S. Dept. Agr., Jour. Agr. Research*, 6 (1916), no. 14, pp. 535–547.

The Diet of Children After Infancy. J. H. M. Knox, *Jour. Amer. Med. Assn.*, 67 (1916), no. 6, pp. 432–435.

The Normal Gastric Secretion. M. E. Rehfuss, *Proc. Amer. Phil. Soc.*, 55 (1916), no. 6, pp. 461–470.

The Uric Acid Solvent Power of Normal Urine. H. D. Haskins, *Jour. Biol. Chem.*, 26 (1916), no. 1, pp. 205–215.

Creatin in Human Muscle. W. Denis, *Jour. Biol. Chem.*, 26 (1916), no. 2, pp. 379–386.

Relative Toxicity of Substances Found in Foods. A. N. Cook and Sylvanna Elliott, *Jour. Indus. and Engin. Chem.*, 8 (1916), No. 6, pp. 503, 504.

The Dietary of the Field Laborer in Spain. *Bol. Agr. Téc. y Econ.*, 8 (1916), No. 86, pp. 141–151; abs. in Expt. Sta. Record, 35 (1916), No. 5, p. 471.

A Week's Menu for an Average Filipino Family. Josefa Herrara, *Philippine Craftsman*, 4 (1916), No. 8, pp. 514–517.

A Study on Food and the Fuel Value of the Dietary at the New York City Municipal Sanatorium. R. J. Wilson and W. L. Rathbun, *Jour. Amer. Med. Assn.*, 66 (1916), No. 23, pp. 1760–1765.

Miscellaneous

Homemade Fireless Cookers and Their Use. *U. S. Dept. Agr. Farmers' Bul.* 771 (1916), pp. 16, figs. 5.

Sea Island Cotton. W. A. Orton, *U. S. Dept. Agr. Farmers' Bul.* 787, (1916), pp. 30, figs. 13.

Convict Labor for Road Work. J. E. Pennypacker, H. S. Fairbank, and W. F. Draper, *U. S. Dept. Agr. Bul.* 414 (1916), pp. 218, pls. 14, figs. 10.

The Cold School Lunch. Bab Bell, *Univ. Missouri, Col. Agr. Ext. Serv. Circ.* 10 (1916), pp. 8, figs. 3.

[Care of the Baby] E. F. Ladd and Alma K. Johnson, *North Dakota Sta. Spec. Bul.* 4 (1916), no. 5, pp. 97–132, figs. 8.

NEWS FROM THE FIELD

An International Lectureship. The International Committee on Home Economics Teaching of the A. H. E. A. have secured Miss Alice Ravenhill as a visiting lecturer on home economics, the first exchange teacher or lecturer in this field. The project was approved at the meeting of the Council held in Washington in November.

The plan was to provide in a number of coöperating institutions a series of special lectures, given by a speaker of wide authority, and treating some of the larger problems of the home and its management, and of education for housekeeping and homemaking, as well as the physical development in childhood and adolescence, with other essential factors in human efficiency.

Miss Ravenhill, long one of the leaders in the English home economics movement, is best known to American educators as the author of the comprehensive and authoritative Report on Domestic Science Teaching in the United States, made to the English Board of Education; author of similar reports on the teaching of home economics in European countries, and of several textbooks. She was long an inspector of domestic science teaching in England, and lecturer on hygiene and household economics in Kings College for Women, London University; late member of Advisory Board of Women's Institutes, Province of British Columbia; lecturer at Universities of Washington, Utah, Nebraska, and Texas, State Colleges of Utah, and Oregon, and other American institutions.

Miss Ravenhill began her lectures at the University of Utah January 24, from there going to the Homemakers' Conferences organized by the Utah State Agricultural Colleges at Ogden and Logan. She has spent a week at the University of Nebraska lecturing in the Departments of Sociology and Household Economics. She also spent a week at the University of Texas and one at the Homemakers' Conference at Fort Worth. She has visited Kansas Agricultural College and the University of Kansas. On March 19 she spoke in Chicago at Lewis Institute on her way to Cleveland, New York, and Boston, expecting to return to Iowa by April 1.

Her subjects are: "Home Economics in the Twentieth Century;" (1) "Scope of the Subject and its Actual Influence on Human Progress." (2) "Its Relation to Efficiency—Individual, Domestic, Economic and Industrial;" (3) "General Teaching Methods—Constructive Criticisms;" (4) "Its Relation to the Home—Structure, Equipment, General Fitness;" (5) "Relation to the Home—the Inmates, Occupations and Recreations."

These subjects are announced tentatively and there may be substituted other topics such as—the Place and Purpose of Family Life; Phases of Growth, their Needs, Significance and Development; Modern Thrift in Its Bearing on the Individual and Households; Factors in Human Efficiency.

The terms are for one week, $100 and expenses—estimates not to exceed $150—$175 in full; for one day, providing two lectures, where itinerary permits, $50 including expenses; other times at proportionate rates. Immediate correspondence from all interested is requested, stating the conditions which the local program and budget suggest as to coöperation in these lectures.

Please correspond with Prof. B. R. Andrews, Teachers College, New York City.

The Northwest Texas Home Economics Convention arranged by the extension department of the University of Texas and held in Fort Worth under the auspices of *the Fort Worth Record* and the women's organizations of Fort Worth, February 19 to 24, included several notable speakers.

On the first day, Home Economics Week, from the Newspaper Point of View, from the Homemakers', the Merchants', and the University Point of View, was discussed by W. H. Bagley, general manager of the *Fort Worth Record*, by Mrs. Saunders, and by Miss Mary Gearing, of the University of Texas.

Mr. Frederick C. Howe, commissioner of immigration at Ellis Island, gave the first of a series of lectures on the topics: "Woman and the City of Tomorrow;" "The Immigrant in Relation to America;" "The Education of Tomorrow—A Social Problem;" "The City and Its Homes;" and "Denmark, the Coöperative Commonwealth."

Miss Alice Ravenhill spoke on "The Foundation of Human Efficiency, Nature and Nurture," and during the week discussed other problems of efficiency.

Mr. Stroughton Holborn of Oxford College, England, gave several lectures on art: "The Need of Art in Daily Life;" "Art and Citizenship;" "The Houses of the People;" "The Relation of Beauty to Goodness and Truth;" "Personal Ornament and Dress, the Modern Failure;" and led a discussion of "The Artistic Arrangement of Our Houses."

Miss Mary Gearing treated "The Budget as a Means of Reducing the Cost of Living," and conducted a round table on "Some Household Leaks and How to Avert Them."

Discussions and demonstrations on different phases of the cost of living were given by Miss Blodgett and Miss Lawrence of the extension department of the University of Texas. "The Peanut as a Cheap Palatable Food," "The Stock Pot and Other Soups as a Means of Reducing the Cost of Food," and "Methods of Buying as a Means of Reducing the Cost of Foods," were some of the topics; while Mr. Golax spoke on "Some Factors Influencing the Cost of Foods in Texas." A bread making demonstration by Miss Lawrence was followed by a round table on "The Price of Bread, Homemade vs. Baker's" led by a local baker and Miss Blodgett.

Mrs. Pennybacker gave an evening lecture on "Some Interesting People I have Known" and an afternoon talk on "Who Closes the Door—Youth or Old Age?"

The last day was devoted to municipal problems with a discussion of "Municipal Markets" by Dr. Cockrell; "Municipal Cold Storage Plants," and "Modern Methods of Municipal Refuse Disposal."

The Conference of New England Normal School Teachers of Home Economics. On February 16 and 17, 1917, the first conference of New England Normal School Teachers of Home Economics was held at Simmons College, Boston, Mass. This was the sixth in a series of sectional conferences which have been called by the United States Commissioner of Education, the previous conferences having been held at Nashville, Tenn., Kansas City, Mo., Moorhead, Minn., Chicago, Ill., and Scranton, Pa.

The following state normal schools were represented at the sixth conference: Farmington and Gorham, Maine; Plymouth and Keene, N. H.; North Adams, Hyannis, Salem, Fitchburg and Framingham, Mass.; Providence, R. I.; Willimantic, Conn.

The conference was presided over by Miss Lyford of the United States Bureau of Education, who outlined the purpose of the Conference and presented the "Home Economics Course in the Normal School" as the theme for discussion.

Dean Arnold of Simmons College gave an address of welcome in which she pictured the field that lies before the student of home economics and the possibilities for future development.

Differing conditions. The widely differing conditions in the normal schools represented at the conference became apparent as the

discussions progressed. Framingham, Mass., gives a three-year course designed to prepare special teachers of home economics. Two courses in cooking and in sewing extending through nineteen weeks, two periods a week, are offered at North Adams, with special classes for those who expect to teach in the rural schools.

The normal school at Fitchburg has offered no courses in home economics to the normal students for the past two years. Lessons are given to girls in the seventh and eighth grade in the training school. No classes are conducted at Salem as a part of the normal course, while Hyannis offers fifteen weeks in cooking and sewing. The special home economics course given at Willimantic, Conn. covers two years.

In the Rhode Island State Normal School at Providence, a course in cooking is offered for one hour a week, and a course in sewing for two hours a week throughout one year.

The courses offered in the normal schools of Maine extend through two years and consist of one or two periods per week in cooking and sewing. A third year for those desiring to become special teachers of home economics in the state is offered at Farmington.

The state normal school at Plymouth, N. H., offers a one-year course and has an arrangement for students who desire to give a third year to special study of home economics, after their regular two-year normal course is completed. The regular course at Keene runs through one year.

Special features. Miss Wooldridge reported a specially well worked out system of correlation between the departments at the Gorham, Maine, Normal. The students are given an opportunity to study the relation of the home economics course to the general school curiculum, giving the work a two-fold value. The materials for the cooking classes are all secured from the dormitory and the finished products are utilized in the dormitory or in the school lunch conducted for the children of the practice school.

Miss Coss reported the system of practice teaching carried on at Framingham. Seventy-five students are teaching sewing at the present time. Classes are conducted not only in the training school but in the schools in nearby towns. Lessons in sewing are planned for the fifth, sixth, and seventh grades, for some of the ninth grades, and the high schools. Miss Coss presented a chart outlining a system of unified sewing problems for each grade.

Miss Goff of Hyannis told of the course in euthenics designed to give the girls instruction in right living, and carried on in connection with their life in the dormitory, and she described the lessons in homemaking that are introduced in the training school from the first through the ninth grade.

Miss Carpenter outlined the course given her seventh and eighth grade girls in the training school at Fitchburg and described the equipment for the preparation of large recipes. Only the simplest dishes are prepared but those are always made with a large recipe and the products are utilized in the dormitory.

Miss Child makes a careful study of the home conditions of her pupils in the training school at Salem and through informal talks relates all their lessons to their home lives as closely as possible. She has found a home economics club helpful. The cost of the cooking lessons in her classes averages 5 cents per lesson.

Miss Smith reported that the course at Farmington includes such special features as one term of demonstration lessons, six lessons in experimental cookery, lessons in household management, dietetics, and the care of children.

The courses at Plymouth were outlined by Miss Varrell as specifically planned to prepare the girls for teaching in the rural schools. The graduates may be required to teach home economics or to coöperate with home economics teachers. The students are given practice in school lunch work, for the noon hour is felt to be "the hour of the home economics teacher."

The girls are also given opportunity to do catering in the village.

Miss Blakey described the carefully worked out lesson plan used in the practice teaching in Willimantic that includes a discussion of the score card by which results are to be judged, and the establishment of a time schedule to determine the length of the various processes. The seniors at Willimantic live in the dormitory and the work of the dormitory is in the hands of twenty girls divided into groups of five. This plan is similar to that followed at Framingham. The work of the senior dormitory at Framingham is in the hands of thirty girls who are closely supervised by the director of home economics.

Miss Sholes reported that at North Adams the rural school is the center of the work. The children bring the materials to be used from their houses. The plans are made out some days in advance, are submitted for approval, and the work is carefully supervised from the normal school.

A summary of the discussion is given in another page of the JOURNAL.

Miss Lyford writes: The teachers in attendance at the conference were most delightfully entertained by the Home economics staff of Simmons College. On Friday, Dr. Blood, Director of the Home Economics Department, invited all members of the conference to partake of a luncheon prepared by one of the cooking classes. On Saturday, Dean Arnold entertained the conference at lunch in the well appointed cafeteria. Opportunity was given to visit the various departments of the institution and a most interesting hour was spent with Miss S. Maria Elliott who explained her working equipment and methods of teaching household management. Other members of the staff also explained their courses and took part in the discussions of the conference.

Brief Notes. The University of West Virginia gave its first winter short course with an enrollment of eleven students. This course was used as a method of training local leaders for various county projects.

The January meeting of the Home Economics Association of Philadelphia was in charge of the Committee on Institutional Feeding. Dr. C., F. Langworthy, Chief, Office of Home Economics, United States Department of Agriculture, addressed the association on the Methods of Presenting Food Values and Food Combinations to the Layman.

The March meeting was a particularly happy one, as a former teacher of many of the members made the address. To those who had been his students the name of Dr. Albert P. Beubaker, of Jefferson Medical College, and his topic "The Vitamines and Their Influence on Digestion" meant a delightfully instructive evening, and their expectations were more than realized.

The preliminary notice of the forming of a Dietitians Section was given in accordance with the charter.

Mrs. Henrietta Calvin, Specialist in Home Economics, U. S. Bureau of Education, expects to attend the National Education Association in Portland, Oregon, July 7–14, and the meeting of the home economics supervisors of city schools preceding it.

She will lecture at Manhattan, Kansas, the last week in July, on her return trip. She is also to give an address at the Pennsylvania State College on the celebration of the tenth anniversary of their Home Economics Department, May 17 and 18.

Mrs. Calvin attended in April two rural educational conferences, one at Philadelphia and one at Rock Hill, South Carolina.

Schools desiring to have Mrs. Calvin address them might make arrangements with her when she is to be in their locality.

Miss Catherine MacKay, the president of the American Home Economics Association, will attend the meeting of the Association in Portland.